DEVELOPMENT OF BRĀHMĪ WITH SPECIAL EFERENCE TO TE ORIGIN AND DEVELOPMENT OF NĀGARĪ

A THESIS SUBMITTED FOR THE DEGREE OF

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PREFACE

The original title of this thesis, viz. "Origin and Development of Devanāgarī" had to be modified because as pointed out by one of the learned examiners, the thesis covered much wider ground than suggested by this title. Consequently with the permission of the University, I have changed the title of the thesis to "The Development of Brāhmī with special reference to the Origin and Development of Nāgarī". The relevant questions such as the antiquity of the art of writing in India, the name, area and period of the use of Brāhmī, the problem regarding the origin of Brāhmī have been dealt with before taking up the development of Brāhmī.

The first chapter dealing with the origin and antiquity of the art of writing in the ancient world has been left out as it does not have any direct bearing on the question in hand.

The suggestions of my worthy examiners have helped me a lot in making the work more exhaustive with regard to the spread of Indian writing abroad, with special reference to Siddham. The study of the regional development of Nāgarī, has, also been taken up on their suggestion. I have tried to throw light on the names Nāgarī and Devanāgarī, and to find out the geographical limits

of the use of Nāgarī, according to the provenance of inscriptions and manuscripts.

In discussing the antiquity of the name Nāgarī, due note has been taken of the statement of Alberuni. My attention was drawn by Dr. B. Ch. Chhabra to Dr. J. Filliozat's article "Paleographie" in L'inde Classique - Manuel Des E'tudes Indiennes, Paris, 1953, which helped tremendously in revising the thesis. Other minor errors which were pointed out by my examiners, have also been removed.

SHASHI BALA

C O N T E N T S

LIST OF ILLUSTRATIONS

ABBREVIATIONS

A.B.O.R.I:	Annals of Bhandarkar Oriental Research Institute.
A.S.I.An.Rep:	Archaeological Survey of India, Annual Report.
B.O.R.I.:	Bhandarkar Oriental Research Institute.
C.I.I. :	Corpus Inscriptionum Indicarum.
Cunningham, A.S.R:	Cunningham, Archaeological Survey Reports.
C.M.J.B. :	Catalogue of Manuscripts in Jesalmere Bhandar.
C.M.P.B. :	Catalogue of Manuscripts in Pattan Bhandar.
E.I. :	Epigraphia Indica.
G.Y. :	Gupta Year.
I.A. :	Indian Antiquary.
I.H.Q. :	Indian Historical Quarterly.
J.A.S.B. :	Journal of Asiatic Society of Bengal.
J.A.O.S. :	Journal of American Oriental Society.
J.B.B.R.A.S.:	Journal of Bombay Branch of Royal Asiatic Society.
J.B.O.R.S. :	Journal of Bihar Orissa Research Society.
J.R.A.S. :	Journal of Royal Asiatic Society.
l. :	line.
ll. :	lines.
MPE :	Minor Pillar Edict.
MRE :	Minor Rock Edict.

Ms.	:	Manuscript.
Mss.	:	Manuscripts.
M.Y.	:	Mālava Year.
No. or no:		Number.
PE	:	Pillar Edict.
PEAK	:	Pillar Edict Allahabad Kauśāmbī.
PEDM	:	Pillar Edict Delhi Meerat.
PEDT	:	Pillar Edict Delhi Topra.
PELA	:	Pillar Edict Lauriya Araraj.
PELN	:	Pillar Edict Lauriya Nandanagarh.
PER	:	Pillar Edict Rampurva.
pl.	:	plate.
pls.	:	plates.
p.	:	page.
pp.	:	pages.
pt.	:	part.
RE	:	Rock Edict.
RED	:	Rock Edict Dhauli.
REG	:	Rock Edict Girnar.
REJ	:	Rock Edict Jaugada.
REK	:	Rock Edict Kalsi.
SRED	:	Separate Rock Edict Dhauli.
SREJ	:	Separate Rock Edict Jaugada.
Ś.Y.	:	Śaka Year.
V.S.	:	Vikrama Saṁvat.
Z.D.M.G.	:	Zeitschrift der Deutschen Morgenländischen Gessellschaft.

SCHEME OF TRANSLITERATION INTO ROMAN

Vowels:

अ = a	आ = ā			
इ = i	ई = ī			
उ = u	ऊ = ū			
ऋ = ṛi	ॠ = ṛī			
ऌ = ḷi	ॡ = ḷī			
ए = e	ऐ = ai			
ओ = o	औ = au			

Consonants:

क = ka	ख = kha	ग = ga	घ = gha	ङ = ṅa
च = cha	छ = chha	ज = ja	झ = jha	ञ = ña
ट = ṭa	ठ = ṭha	ड = ḍa	ढ = ḍha	ण = ṇa
त = ta	थ = tha	द = da	ध = dha	न = na
प = pa	फ = pha	ब = ba	भ = bha	म = ma
य = ya	र = ra	ल = la	व = va	
श = śa	ष = sha	स = sa	ह = ha	
ड़ = ḍ̤	ढ़ = ḍ̤ha	ळ = ḷa		
ं = ṁ	ः = ḥ			

CHAPTER 1

ANTIQUITY OF THE ART OF WRITING IN INDIA

Sufficient material bearing on the antiquity of the art of writing in ancient world has come to light to enable us to believe that the art of writing was practised in the ancient world as well as pre-historic world.[1] But the exact date of its invention has not yet been determined. As regards India, we find that about the close of the nineteenth century, European scholars like Max Müller, Burnell and Bühler held the view that writing was introduced in India not earlier than the eighth century B.C. It was the lower limit fixed by them. But since then excavations at Harappa and Mohenjodaro have brought to light very important evidence in the form of inscribed seals. The writing on these seals has not been deciphered, yet it can be claimed that the art of writing was practised on the Indian soil

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1. Panchanan Mitra - "Pre-historic Writing in India & Europe", J.A.S.B., 1921, p. 279 ff.
   Panchanan Mitra -"New Light from Pre-historic India", I.A., 1919, p. 57ff.
   David Diringer - The Alphabet, p. 41 ff.

as early as the third millenium before Christ.

Literary Evidence

Vedic Literature:

The evidence from the Vedic literature leads to the same conclusion. In Rigveda, at two places, the term Akshara[1] is used for 'syllable' which is significant. Akshara undoubtedly means indelible. When it is used in the sense of a letter, it means, a letter written in such a way that it cannot be erased. The use of Akshara for 'syllable or letter' in our oldest literature definitely proves that the people of those times were acquainted with the art of writing. In the Aksha-sūkta,[2] dice is described as marked with signs. The signs were named Kṛita, Tretā, Dvāpara and Kali. Kṛita was the lucky throw and Kali, which later on in the same sūkta is called 'ekapara' (having the sign one on it) was the unlucky throw. The practice of marking the dice may indirectly point to the practice of writing. Further the word 'Ashṭakarṇī'[3] found in Ṛigveda indicates the knowledge

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1. Ṛigveda, x.13, 3.
   Pañcha padāni rūpo anvarohaṁ chatushpadīmanvemi vratena
   akshreṇa prati mima etāmṛitasya nābhāvadhi saṁ punāmi.
   Ṛigveda, I, 164, 24.
   gāyatreṇa prati mimīte arkamarkeṇa sāma traishṭubhena vākam.
   vākena vākaṁ dvipadā chatushpadākshreṇa mimate sapta vāṇī.
2. Ibid., X. 34.
3. Ibid., X. 62, 7.
   sahasraṁ me dadato ashṭakarṇya ā :śravo deveshvakrata
   pra nūnaṁ jāyatāmayaṁ manustokameva rohatu.

of writing in the Ṛigvedic-period, since the meaning of this term is generally taken to be 'one having the sign for (the number) 8 marked on the ear'. "It is supported by similar epithets, 'having the mark of a lute on the ear (karkari-karṇyaḥ)', 'having the mark of a sickle on the ear, (dātra-karṇyaḥ), 'having the ears bored (chhidra-karṇyaḥ)', given in the Maitrāyaṇī Saṁhitā."[1] It appears that the marking of ears for determining ownership, was a popular practice in those days.

In the Atharvaveda, a term saṁ-likhita[2] is used in dicing. Sāyaṇa's commentary throws some light on the term. He explains it, thus, saṁ-likhitam samyag aṅka likhitavantam chinhitam and it appears to be the right explanation. This is the earliest occurrence of the root likh and saṁ as the prefix.

Leaving the indirect evidence of long numericals, knowledge of meters etc. it can be said that the occurrence of the word Akshara, the marking of dice mentioned in the Ṛigveda and Atharvaveda as well as of cows point to the use of the art of writing in the Vedic period (3rd millenium B.C.). It also appears that the method of writing of words was the incision of signs into the hard-material.

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1. Vedic Index by Keith and Macdonell, pt. I, 46.

2. Atharvaveda, VII. 50, 5.

ajaishaṁ tvā saṁlikhitamajaishamuta saṁrudham.
avim vṛiko yathā mathadevā mathnāmi te kṛitam.

In other languages also the word for writing originally meant incising. "Greek 'γράφειν', Latin 'scribere', German 'shreiben', English 'scribe, inscribe' etc. originally meant 'to incise'."[1] The root √likh occurring in the Atharvaveda, may be added to this list.

Among the Āraṇyakas, the Aitareya Āraṇyaka (not later than 5th century B.C.) contains reference to actual writing. At the end of the fifth Āraṇyaka, it is stated that the pupil should not learn (Veda), when he has been writing or effacing his writing.[2] Akshara also occurs in the Śāṅkhāyana Āraṇyaka.[3]

Upanishadas do not break the chain of the evidence offered by the Saṁhitas, Brāhmaṇas and Āraṇyakas. In principal Upanishadas, occur Varṇa,[4] Akshara,[5] Akāra Ukāra Makāra[6] which refer to writing.

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1. I.J. Galb, A Study of Writing, p. 7.
2. Aitareya Āraṇyaka, V. 3, 3.
   nāvashtabdho na pratistabdho ... adhīyīta nollikhya nāvalikhya iti.
3. Śāṅkhāyana Āraṇyaka, VIII. 1.
4. Taitarīya Upanishad - Śikshāvalli, 2.
   Śīkshaṁ vyākhyāsyāmaḥ varṇaḥ svaraḥ.
5. Chhāndogya Upanishad, II. 14, 1-4.
   Himkāra iti tryaksharam.
6. Māṇḍukya Upaniṣad, 8.
   so ʃyamātmādhyaksharamoṁkāraḥ akāra ukāro makāra iti.

Next in the chronological order come the Vedāṅgas. In the Nirukta of Yāska, we get important reference pointing to the knowledge of the art of writing. Besides the occurrence of the words Akshara,[1] Varṇa,[2] Ukāra,[3] Thakār,[4] we find mention of grantha[5] which obviously proves the existence of written texts. In another place, it makes mention of books in prose and poetry.[6] Date of Yāska is generally believed to be 7th century B.C.

In Pāṇinī's Ashṭādhyāyī which belongs to the 5th century B.C.[7] references to writing occur. The words, Akshara,[8] Varṇa,[9] Grantha[10] are found in it. Moreover,

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1. Nirukta, II.1.
   avidyamāne sāmānye ऽpi aksharavarṇasāmānyād nirbrūyād, nattveva na nirbrūyāt.
2. Ibid., VII. 13
   virājanāt sampūrnākshrā virādhanāt ūnakshara viprāpaṇād adhikākshara.
3. Ibid., I. 5.
   athāpi ukāra etasminnevārthe.
4. Ibid., VII. 7, 7.
   thu iti nāmakaraṇaḥ thakāro vā.
5. Ibid., I. 20.
   upadeśāya glāyantaḥ avare bilma grahaṇāya imaṁ graṁthaṁ smāmnāsishuḥ vedaṁ cha vedāṅgāni cha.
6. Ibid., I. 9.
   atha ye pravritte ऽrthe mitākshareshu grantheshu vākyapūrna āgachchhanti padapūrṇāste mitākshareshu anarthakā.
7. V.S. Agrawal, India as known to Pāninī, p. 477.
8. Ashṭādhyāyī, Gaṇapāṭha, 76, 2.
9. Ibid., Sūtrapāṭha, 4, 1, 39.
   varṇādanudāttat topadhāt to nah.
10. Ibid., 4, 3, 87. adhikṛitya kṛite granthe.
    Ibid., 4, 3, 116. kṛite granthe.

there occurs root √likh in dhātupāṭha (1366) and he himself explains it, thus, "likh - Aksharavinyāse". Lekha,[1] lipi,[2] libi[3] are other words indicating the wide use of writing in Pāṇinī's time.

The Sūtra works also contain many references to writing. In the Āśvalāyana Śrauta Sūtra, the word Varna occurs.[4] The Vāsishṭha Dharma Sūtra mentions written documents as preferable legal evidence[5] and points out to an older tradition to the same effect.

Buddhist Literature:

In the Buddhist canon, there are many references to writing. The Vinaya Piṭaka which certainly belongs to the period between B.C. 500 and B.C. 400 if not earlier, contains many terms like lekham,[6] lekhaka.[7] In Mahāvagga, there is a reference to a registered thief[8]

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1. Ibid., 6, 3, 49. hṛidayasya hṛillekhayadaṇa lāseshu.
   Ibid., Gaṇapāṭha 37, 48; 228, 42. lekha.
2. Ibid., Sūtrapāṭha, 3, 1, 53. lipisichihvascha.
3. Ibid., 3, 2, 21.
   divāvibhāniśāprabhābhāskarāntāntādibahunā-ndīkiṁlipilibibalibhaktikartrichitrakshetra-saṁkhyajaṅghābahvaharyattaddhanuraruhshu.
4. Āśvalāyana Śrauta Sūtra, X. 4.
   yathā hi parimitā varnā aparimitaṁ vācho gatimāpnuvantyeyameva parimitānamahnāmaparimitāh samghātāh.
5. Vāsishtha Dharma Sūtra, XVI. 10, 14-15.
6. Pāchittiya Pāli, V. 65, 402;
   Mahāvagga, I. 41, 99. Lekhaṁ sikkheyya.
7. Pāchittiya Pāli, V.2, 20; V.2, 27; V.3, 39.
8. Mahāvagga, I. 38, 93.
   ayaṁ so likhitako choro.

and in the same book it is said that Pabbajjā ordination is not to be conferred on proclaimed (likhitakam) robber.[1] It shows that writing was widely spread at that time and that its use was not confined to literary purposes.

Moreover, there were elementary schools where writing (lekha), arithmetic (gananā), forms (rūpa) were taught.[2] From Upālidārakavatthu, it is evident that writing was a good means of livelihood as Upāli's parents thought that after learning the art of writing, their son would lead an easy and a happy life.[3] In the Pārājika[4] section of the Vinayapiṭaka, the monks are prohibited to incise the rules which may induce people to self-mortification for gaining heaven, fame and riches after this life. The Mahāvagga refers to the publication of a royal proclamation for tracing out a thief.[5] In the Pāchittiya section of the Vinaya-Piṭaka the art of writing is included in

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1. Ibid., I. 62, 119.
   likhitakaṁ ... na pabbājetabba.
2. Mahāvagga, "Upālidārakavatthu", I, 41, 99.
   lekhaṁ gaṇanaṁ rūpaṁ.
3. Ibid., I. 49. 'sache kho Upāli lekhaṁ sikkheyya, evaṁ kho Upāli amhākaṁ achchhayena sukhaṁ cha jiveyya na cha kilameyyā ti.
4. Pārājika Pāli, I, 3, 153.
   lekhāya saṁvanneti nāma lekhaṁ chhindati - "yo evaṁ marati so dhanaṁ va labhati yasaṁ va labhati saggaṁ va gachchatī" ti, akkharakkharāya āpatti dukkatassa. lekhaṁ passitvā marissāmi, ti dukkhaṁ vedanaṁ uppādeti, āpatti thullachchayassa. Marati, āpatti pārajikassa.
5. Mahāvagga, I, 35, 93.
   so cha rañño antepure likhito hoti yattha passitabbo tattha hantabbo ti.

the list of superior crafts.[1]

Jātakas contain many references to writing, writing materials and written documents. Phalaka which obviously means writing board is mentioned in Kaṭāhaka Jātaka.[2] The words Lekhani and Inapanna occur in Khadirāṅga Jātaka for receipt and debtor's bond respectively.[3] Vermillion was used for writing letters.[4] Jātakas mention the writing of a message on leaf.[5] Asadisa Jātaka refers to scratching of a message on an arrow.[6] The fact that the golden plates were also used for writing purposes can be ascertained from the Jātakas.[7] They also make mention of private letters[8] and official letters.[9] Forging of letters is frequently mentioned in the Jātakas.[10] Existence

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1. Pāchittiya Pāli, V. 2, 15.
   ukkaṭhaṁ nāma sippaṁ - muddā gaṇanā lekhā.
2. Jātaka Stories, ed. E.B. Cowell, I, 275.
3. Ibid., I, 102.
4. Ibid., IV, 303, "Hatthipāla Jātaka".
5. Ibid., II, 122, "Puṇṇanādi Jātaka".
   Ibid., IV, 35, "Mahādhammapāla Jātaka".
   Ibid., VI, 186, "Mahā Umagga Jātaka".
6. Ibid., II, 62.
7. Ibid., II, 24, "Mora Jatāka".
   Ibid., II, 254, 255, 257, "Kurudhamma Jātaka"
   Ibid., IV, 163, "Ruru Jātaka".
8. Ibid., VI, 186, "Mahā Umagga Jātaka".
9. Ibid., IV, 106, "Kāma Jātaka".
10. Ibid., I, 275, "Kaṭāhaka Jātaka".
    Ibid., IV, 79, "Daśaratha Jātaka".

of elementary schools can be inferred from Kaṭāhaka Jātaka where a slave is mentioned to have learnt the art of writing and numbers along with his master's son.[1] In Mahā-Umagga Jātaka, it is stated that the dresses, ornaments and the swords were inscribed with the owner's name.[2] Tundila Jātaka makes a significant statement that the Bodhisattva caused a book of Judgements to be written saying, "By observing this book ye should settled suits."[3]

Jain Literature:

Jain scriptures, have many important references to writing. Amongst the Jain canonical works, the Samavāyāṅga Sūtra supplied very significant evidence. It enumerates writing amongst the seventy-two arts, also known to the Buddhist canon.[4] The names of eighteen scripts (livis) are mentioned in it, Brāhmī being placed at the head of the list.[5] In the Samavāyāṅga Sūtra it is stated that the Brāhmī lipi consists of forty-six letters.[6] The writer of the Bhagavatī Sūtra begins his work with a salutation to Bambhī livi.[7]

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1. Jātaka Stories - ed. E.B. Cowell, I, 275.
2. Ibid., VI, 186, 198, 209.
3. Ibid., III, 183.
4. Sūtra 72, bāvattarī kalāo pa.taṁ. - lehaṁ gaṇiyam rūvaṁ.
5. Sūtra 18. baṁbhīe ṇaṁ livīe atthārasavihe lekhavihāne pa.tam. - baṁbhī javaṇī liyodāsā ūriyā kharoṭṭiā.
6. Sūtra 46, baṁbhie ṇaṁ livīe chhāyālīsam māuyakkharā.
7. Sūtra 2, namo baṁbhīe livīe

Thus, the reference to the art of writing found in the Jain canon, particularly in the Samavāyāṅga Sūtra which is traditionally dated before Aśoka's reign, are enough to show not only the wide use of this art in India but also the presence of different scripts before the 4th century B.C.

Classical Sanskrit Literature:

The Arthaśāstra, which belongs to pre-Aśokan time, consists of numerous significant references to the art of writing. We are told that students learnt writing and numbers after having undergone the ceremony of tonsure.[1] Kautilya has devoted a full chapter to the royal writs,[2] describing the qualifications of the writer,[3] essential features of a writ,[4] purposes of issuing a writ,[5] varieties

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1. Kautilya-Arthāśāstra, Prakaraṇa 2, "Vṛiddha Saṁyogaḥ"-- vṛittachaulakarmā lipiṁ sankhyānaṁ chopayunjīta.
2. Ibid., Prakaraṇa 28 - "Śāsanādhikāraḥ".
3. Ibid., tasmādamātyasampadopetah sarvasamayavidāśugranthaśchārvakshro lekhavāchanasamartho lekhakaḥ syāt. So ʃvyagramanārajñas sandeśaṁ śrutvā niśchitārthaṁ lekhaṁ vidadhyāt.
4. Ibid., arthakramaḥ sambandhaḥ paripūrṇatā madhurya-maudarya spashṭatvamiti lekhasampad.
5. Ibid., nindā praśaṁsā pṛichchhā cha tathākhyānamathārthanā. pratyākhyānamupālambhaḥ pratiṣṭhedho ʃtha chodanā. sāntvamabhyavapattiścha bhartsanānunayau tathā. eteshvarthāḥ pravartante trayodasasu lekhajāḥ.

of writs[1] and the defects of a writ.[2] Punishment for the writers, not doing their duty sincerely, has also been laid down.[3] The emolument to be paid to a writer has been laid down.[4] Writing or cipher-writing played an important role in the task of spies[5] and envoys[6] and also in creating

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1. Kauṭilya-Arthaśāstra, Prakaraṇa 28,
   prajñāpanājñāparidānalekhāḥ tathā parihāranisṛishṭi lekhau. pravṛittikaścha pratilekha eva sarvatragaścheti hi śāsanāni.

2. Ibid., Śāsanādhikāraḥ akāntirvyāghātaḥ punruktamapaśabdaḥ samplava iti lekhadoshāḥ.

3. Ibid., Prakaraṇa 84, "Sarvādhikaraṇarakshaṇam" - lekhakaścheduktam na likhatyanuktaṁ likhati duruktamupalikhati suktamullikhatyarthotpatiṁ vikalpayatīti pūrvamasmai sāhasadaṇḍaṁ kuryāt.

   Ibid., Prakaraṇa 85, "Ekāṅgavadhanishkrayaḥ" - rājaśá-sanamūnamatiriktaṁ vā likhataḥ ... vāmahastadvipādavadho navaśato vā daṇḍaḥ.

   Ibid., Prakaraṇa 25, "Akshapaṭalegāṇanikyādhikāraḥ"- kramāvahīnamutkramamavijñātaṁ punaruktaṁ vā vastukamavalikha to dvadasapano dandah. nivimavalikhato dvigunah.

4. Ibid., Prakaraṇa 91, "Bhṛityaśaraṇīyam" - śilpavantah pādātaḥ saṅkhyāyakalekhakādivargah - pañchaśatāḥ.

5. Ibid., Prakaraṇa 8, "Gūḍhapurushapraṇidhiḥ" - bhāṇḍagūḍhal ekhyasaṁ - jñābhirvā chāraṁ nirhareyuḥ.

   Ibid., saṁsthānāmantevāsinah saṁjñālipibhiśchārasañchāraṁ kuryuḥ.

6. Ibid., Prakaraṇa 12, "Dūtapraṇidhiḥ" - puṇyasthānadevagṛihachitralekhyasaṁjñābhirvā chāramupalabhet.

dissension in the enemy.[1] The use of writing was very common in administration. The king corresponded with his ministers through letters.[2] The superintendent of each department had a writer attached to his department.[3] The superintendents of horses and of tolls were directed to keep written records of the horses[4] and the trades in a caravan[5] respectively. The time-limit of five nights was allotted to a clerk for writing a small portion of the accounts.[6] There is mention of registers for keeping accounts,[7] and special care was taken in making a place for these registers[8] in the account's office. Kautilya

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1. Kautilya-Arthaśāstra, Prakaraṇa 161, "Bhedopāda Nānyupāṅśudaṇḍaḥ" - tasyāhaṁ bhayāllekhyamābharaṇaṁ gatā ʃsmi.

   Ibid., Prakaraṇa 163, "Mantrayuddham" - rājā kila māmavarodhayishyati tavāntikāya patralekhyamā bharaṇaṁ chedaṁ parivrājakayā ʃʃhṛitam. iti.

2. Ibid., Prakaraṇa 16, "Rājapraṇidhiḥ" - pañchame mantriparishadā patrasaṁpreshaṇena maṁtrayet.

3. Ibid., Prakaraṇa 27, "Upayuktaparīkshā" - tasmādasyādhyakshaḥ saṅkhyāyakalekhakarūpa darsakanīvīgrāhakottarādhyakshaśkhaḥ karmāṇi kuryuḥ.

4. Ibid., Prakaraṇa 47, "Aśvādhyakshah" - aśvaparyagraṁ kulavayovarṇachihnavargāgamairlekhayet.

5. Ibid., Prakaraṇa 39, "Śulkādhyakshaḥ" - śulkādāyinaśchatvāraḥ pañcha vā sārthopayātān vaṇijo likheyuḥke kutastayāḥ kiyatpaṇyāḥ kva chābhijñanamudrā vā kṛitā iti.

6. Ibid., Prakaraṇa 25, "Akshapatale Gāṇanikyādhikāraḥ"- alpaśeshalekhyanīvīkaṁ pañcharātramākaṅkshet.

7. Ibid., tatrādhikaraṇānāṁ saṁsthānaprachārasaṁjātāgraṁ ... nibandhapustakastha kārayet.

8. Ibid., nibandhapustakasthānāṁ kārayet.

also refers to the total number of letters (varnas) in the alphabet of his time.[1] The use of leaves for writing is indicated in an observation regarding the unsuitability of black-leaves for writing purposes.[2] Badly written document was not to be depended on as a witness.[3]

Thus it is evident that writing was extensively used in Kautilya's time i.e. the fourth century B.C. It is also apparent that it had not been introduced recently because it needed centuries for this art to attain such popularity as is indicated by Kautilya's Arthaśāstra.

The Manu Saṁhitā contains a few but not unimportant references to writing. It is mentioned there that a document written under compulsion is to be considered void.[4] Forgers of royal edicts were put to death.[5] The evidence of witnesses for determination of boundary was recorded.[6]

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1. Kautilya-Arthaśāstra, Prakaraṇa 28, "Śāsanādhikāraḥ"- akārādayoḥ varṇāḥ trishashṭiḥ.
2. Ibid., tatrakālapattrakamachāruvishamavirāgākshara-tvamakāntiḥ.
3. Ibid., Prakaraṇa 63, "Ṛiṇādānaṁ" - bāliśyādabhiyokturvā duḥśrutaṁ durlikhitaṁ pretābhiniveśaṁ vā samīkshya sākshipratyayameva syāt.
4. Manu Saṁhitā, VIII, 168 - balāddattaṁ balād bhuktaṁ baladyachchāpi lekhitam.
   sarvānbalakṛitānarthānakṛitānmanurabravīt.
5. Ibid., IX. 232 - kūṭasāsanakartṛīṁścha prakṛitīnāṁ cha dūshakān
   strībālabrāhmaṇaghnāṁścha hanyād dviṭsevinastathā.
6. Manu Saṁhitā, VIII. 255 - te prishṭāstu yathā brūyuḥ samastāḥ sīmni niśchayam.
   nibadhnīyāttathā sīmāṁ sarvāṁstāṁśchaiva nāmataḥ.

Writing was used in money transactions as provision had been made for renewing the agreement if a person was unable to pay his debt in time.[1]

Palaeographic Evidence

The earliest definitely datable inscriptions are those of Aśoka. They are found all over India from Erragudi in the South to Kandhar (Afghanistan) in the north-west. Brāhmī was the national script used all over India except the extreme northwestern part of India. It must have taken a fairly long period for Brāhmī to become the general Indian alphabet. The Aśokan characters have in many cases varient forms e.g. o, kha, ga, gha, chha, ja, dha, ma, la, etc. Keeping this in view, it can be concluded that Aśokan script had had a long history.

The conclusion is supported by the appearance of Brāhmī characters on Persian sigloi, which belong to fourth century B.C. There are some other inscriptions which are generally attributed to pre-Aśokan time, viz. the Piprahwa vase inscription, Sohgaura copper plate inscription, Mahasthan stone plaque inscription, Barli stone inscription, Eran coin legend and the Taxila coins. These inscriptions neither refer to any known era nor do they present the name of any important king. So the date for these records can be determined on the basis of

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1. Ibid., VIII, 154 - ṛiṇaṁ dātumaśakto yaḥ kartumichchhetpunaḥ kriyām.
   sa dattvā nirjitaṁ vṛiddhiṁ karaṇam parivartayet.

paleography and orthography.

Piprahwa Vase Inscription:

J.F. Fleet[1] believed that the Piprahwa relic casket was buried shortly after Buddha's death and he assigned to these latter, a date which must not be far removed from 480 B.C., the date of Buddha's death. But later researches have shown that there is no definite evidence for dating this record in pre-Aśokan time.[2]

Sohgaura Copper Plate Inscription:

This record presents a peculiar feature. Some space has been left between the upper and the lower halves of ma which therefore appear to be separated. In one case the medial i is attached in the wrong direction - ि (him). Medial o is attached in reverse direction. This is also found in some of the Aśckan inscriptions. Besides these pecularities, the characters of this record represent older Mauryan alphabet. Bühler dates it in the third century B.C. on palaeographic grounds[3] and D.C. Sircar also places it about the same period, though he seems to be inclined to put it even later.[4] K.P. Jayaswal regards it as a record connected with the famine which according to the Jain tradition occurred in the reign

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1. J.A.R.S., 1906, p. 179.
2. cf. A. Barth, I.A., 1907, p. 124 ff.
3. I.A., XXV, p. 266.
4. Sircar, Select Inscriptions, 1st Ed., p. 85, f.n.no.1.

of Chandragupta Maurya.[1] But his interpretation of the symbol of 'Crescent on the Hill' as a monogram of Chandragupta cannot be regarded as definitely established.' Fleet places it between B.C. 320 and B.C. 180 and is ready to place it even before on the basis of orthography,[2] which again is not absolutely infallible test. The medial vowels are clear in some cases. In others they may be illegible on account of the surface being worn out. Dani places it in the earlier half of the second century B.C.[3] on the basis of angularity in some letters.

Mahasthan Stone Plaque Inscription:

This inscription is engraved on a fragment of hard lime stone which was discovered from Mahasthangarh, in the Bogra district of East Bengal. Since the first portion is lost, it cannot be said whether it contained the name of the ruling king or not. B.M. Barua compares the text of this record with some lines occurring in Pāli Gabbhini Sutta and on the basis of contents and language assigns this inscription to pre-Mauryan time.[4] But as Bhandarkar thinks, the forms of the letters and the language of this record are the same as used in the Aśokan incription.[5]

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1. E.I., XXII,p.3.
2. Fleet, J.R.A.S., 1907, p. 509.
3. Indian Palaeography, Oxford, 1963, p. 56.
4. I.H.O., X,p.57.
5. E.I., XXI,p.84.

Moreover, this record contains some peculiarities as are found in the Kalsi version of the Fourteen Rock edicts, viz. the likeness between the forms for sa and sha and the employment of a vertical bar or danda, for separating words and clauses. Since the characters of this inscription present the same features as those of the inscriptions of Aśoka, Sircar and Upasak have placed it in the 3rd century B.C.[1] Dani places it in the first half of the second century B.C.[2]

Stone Inscription of Barli:

K.P. Jayaswal has attempted to place the stone inscription of Barli in 4th century B.C. by taking the word 'chaturāsiti' as standing for the date eighty-four which he has referred to the Nanda era which according to him commenced in 458 B.C.[3] It would be pertinent to observe in this connection that there is no indication in the inscription that the date belongs to Nanda era. It is not even certain that such an era ever existed. The kings of the early Indian dynasties date their records in their regnal years. D.C. Sircar is of the opinion that the word eighty-four refers to something like the number of pillars that were raised at the site rather

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1. D.C. Sircar, Select Inscriptions, 1st Ed. p. 82; Dr. Upasak, The History & Palaeography of Mauryan Brāhmī, p. 182.
2. Indian Palaeography, p. 57.
3. J.B.O.R.S., 1930, pp. 67-68.

than to a date.[1] Under these circumstances, when this is not even clear that the word eighty-four represents a date, it would be hazardous to assign a definite date like 374 B.C. to the present inscription. The characters of this record display more or less the same features as the Aśokan or even the Śuṅga letters.

Taxila Coins:

Numerous coins have been found in the ruins of Taxila. Majority of them bear legends in the oldest type of Brāhmī, some of them in Brāhmī and Kharoshṭhī and others in Kharoshṭhī. Cunningham places them in B.C. 400[2] and Bühler opines that 'perhaps' he is right.[3] Rajbali Pandey also accepts the above date for these coins on palaeographic and numismatic grounds.[4]

Eran Coin Legend:

The Eran coin has been assigned to pre-Aśokan period because of archaic forms of its characters and numismatic considerations.[5] Bühler considered it to be pre-Aśokan because of the legend running from the right to the left and thinks that it "offers a contribution to the earlier

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1. J.A.S.B., 1951, p. 34.
2. A.Cunningham, Coins of Ancient India, p. 61.
3. G. Bühler, Indian Palaeography, p. 24.
4. Indian Palaeography, 2nd Ed. pt. I, p. 32.
5. Ibid., p. 32.

history of Brāhmī."[1] But, it is generally believed that it was due to inadvertence in the engraving of the mould.[2] Only with the decipherment of the Indus script, the problem will be solved.

Bhattiprolu Inscriptions:

The Bhattiprolu inscriptions[3] those on the casket coming from southern India display certain strange characteristics which led Bühler to assume that Aśokan Brāhmī had developed into a regional script named Dravidian. According to him "the Dravida alphabet separated from the main stock of the Brāhmī long before the Eran coin was struck, at the latest in the fifth century B.C."[4] Thus, he points to the high antiquity of Brāhmī. But the inscription on the crystal discovered with the first set presents regular forms except the form of da. Moreover, nowhere else these peculiarities are found. So these peculiarities are ascribed to the writer as mistakes on his part.[5]

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1. G. Bühler, Indian Palaeography, p. 23.
2. Fleet, "Introductory note on Bühler's Indian Palaeography", Indian Palaeography, p. 11.
   cf. Hultzsch, I.A., XXVI, p. 336.
   C.S. Upasak, History & Palaeography of Mauryan Brāhmī Script, p. 11.
3. E.I., Vol. II, pls. between pp. 328-29.
4. Indian Palaeography, p. 23.
5. cf. Dani, Indian Palaeography, p. 70.

Foreign Sources

The Greek historians and geographers supply important evidence bearing on the antiquity of the art of writing in India. They have observed that Indians wrote on cloth and on the bark of the trees.

Nearchus who visited India with Alexander in 327 B.C. observed that Indians wrote on linen cloth, very successfully.[1]

Megasthenes, who was the Greek ambassador at Chandragupta Maurya's court and stayed at Pālibothrā (Paṭaliputra) from 305 B.C. to 299 B.C., supplies evidence of the prevalence of the art of writing in his day. While writing about the duties of Philosophers - one of the seven castes in India, he recorded that "At the beginning of the year, they went together to the King; and whatever each man has drawn up in writing or observed as useful with reference to the prosperity of either fruits or living-beings or concerning the government, he brings forward in public."[2] This passage leaves no doubt that at least one of the seven castes in India knew the art of writing.

Another useful reference to writing is from Philostratus (1st century A.D.) whose evidence is comparatively later but not in the least unimportant. He describes an interesting custom prevalent in India in the first half

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1. R.C. Majumdar, Classical Accounts of India, p. 279.
2. Ibid., p. 264.

of the first century A.D. i.e., "When an Indian died, a legally appointed officer repaired to his house and enquired into, and set down in writing, his mode of life."[1] It shows that the use of writing for administrative purposes was in vogue and that written records existed. Another reference from the same source is very interesting. We are told that the elephants of the plains are so tractable and imitative that they may be taught to write.[2]

Thus the evidence of the Greek writers points to the wide use of the art of writing before the 4th century B.C. in India. It must have taken a few centuries for this art to attain such popularity as is indicated by the statements of Megasthenes and Philostratus.

Thus, the above survey of palaeographic material can in no way help to push the upper limit of the art of writing in India beyond Aśoka's time. Yet with the discovery of the Indus Valley script and with the literary evidence offered by Vedic, Buddhist, Jain literature and classifical Sanskrit literature and also by foreign writers, it can be concluded that this art had had a high antiquity in this country. It is also important that at least four different scripts were used on Indian soil in the days of Aśoka, the chief among them was Brāhmī.

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1. Ibid., p. 391.
2. Ibid., p. 386.

CHAPTER 2

THE BRĀHMĪ ALPHABET

The earliest palaeographically known forms of writing in India are so called Brāhmī, Kharoṣṭhī, Greek and Aramaic besides the Indus Valley script which has not been successfully deciphered as yet. The detailed description of all these scripts will be out of place here and for our present purpose it will be sufficient to study Brāhmī alphabet which is the source of Nāgarī.

NAME

The name Brāhmī has been applied by modern palaeogrphists to the ancient Indian script which is written from left to right. According to Indian tradition, writing is the gift of the Creator.[1] Dr. R.B. Pandey explains the name as "the script invented by the Indo-Aryans for the preservation of Brahma or Veda."[2] The name occurs in some early Jain and Buddhist texts. It occurs in the form Bambhī at the head of the list of eighteen scripts given in Paṇṇavaṇā Sūtra and Samavāyāṅga Sūtra.[3] In the

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1. cf. नाकरिष्यदयं ब्रह्मा etc. Nārada Smṛiti, IV, 70.
   धान्याक्षराणि सृष्टानि etc. quoted in Vyavahāra nirṇaya of Mitramiśra.
2. Indian Palaeography, p. 35.
3. Samavāyāṅga Sūtra, 18.

Lalitavistara[1] also, it is at the head of the list of sixtyfour scripts. But its identification with the general Indian script as first seen in the inscriptions of Aśoka became possible only through the Chinese Encyclopaedia Fa-wan-shu-lin composed in 668 A.D. This work tells us that writing was invented by three divine powers. First of these was Fan (Brahmā) who invented Brāhmī which runs from left to right. However, J. Filliozat[2] thinks that the name of the Aśokan script may have been Puṣkarasādi. But that is hardly possible. A script named as Pukkharasariyā in the Jain Sūtras quoted above, and as Puṣkarasāri in the Lalitavistara, is mentioned along with Brāhmī. This shows that the two are not identical. Pukkharasariyā or Pushkarasāri was the script of Gandhar and seems to have been named after Pushkalāvatī the capital of that region or after a grammarian Pushkarasādī.

Now the term Brāhmī is applied to the Indian writing running from left to right from the time of Aśoka upto the fifth-sixth centuries A.D. The writings of Indian origin abroad of this period, also come under this designation.

Extent & Period of Its Use:

In the time of Aśoka, Brāhmī was the national script

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1. Lalitavistara - Chapter X.
2. "Paléographie", L'inde Classique, p. 667.

of India and documents in this script have been found from Kalsi (Dehradun Distt., U.P.) in the North to Siddapur (Chitradurga distt., Mysore) in the South and from Dhauli (near Bhuvaneshwar, Orrissa) in the East to Girnar (Junagadh, Gujarat) in the West.

In the course of its evolution, during the period following the reign of Aśoka, it passed through a gradual process of change resulting from the automatic functioning of the laws of change and at the same time became susceptible to certain regional tendencies, which gave rise to several local varieties and ultimately resulted in the formation of regional scripts. The southern Brāhmī developed into the southern scripts namely Telugu, Kannada, Grantha, Kaliṅga and Tamil. The northern variety developed into Kuṭila (acute-angled is a better name) or Siddhamatṛikā as reported by Alberuni, which further developed into Nāgarī, Śāradā and Bengali.

The use of Brāhmī was not confined to India but it had spread far beyond the frontiers of India. It was imported in Ceylon, Burma, Malaya, Indonesia, Indo-China, Nepal and Central Asia.

In Ceylon, the inscriptions in Brāhmī are found from the first century B.C. to the fifth century A.D.,

most of which show the development of the late Brāhmī of South Western India.

In Malaya, Indonesia, Indo-China and Burma, too, the records in the South Western variety of 5th-6th century are found. Records in late Brāhmī of Eastern India are found in Nepal and sometimes in Burma. In Central Asia, it was introduced before the Gupta period and later from about the 7th century A.D., its derivative was used for the local dialect of Central Asia. It survives through its derivatives in Java, Cambodia, Nepal and Tibet to the present day. It is a pity that the origin of so well-known a script remains still unsettled.

CHAPTER 3

ORIGIN OF BRĀHMĪ

The discovery of the Indus Valley seals has almost revolutionised our ideas regarding the antiquity of the art of writing in India. But the problem of the origin of Indian Brāhmī alphabet remains still unsolved since the Indus Valley script has not been successfully deciphered as yet. Still it has led some scholars to believe that the origin of Brāhmī is indigenous.[1] At the time when Cunningham expressed his views about the indigenous origin of the Brāhmī characters, most of the European scholars were of a different opinion. Among them a group of scholars believed Brāhmī to have derived from the Greek alphabet and others derived it from the Semitic writing.

Theories of Foreign Origin

J. Prinsep, Otfreid Müller and J. Hélévy attributed the origin of Brāhmī to the Greek source.[2] Otfreid Müller suggested that the Greek alphabet was conveyed to India

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1. cf. D.C. Sircar, Inscriptions of Aśoka, p. 25; R.B. Pandey, Indian Palaeography, pt. I, p. 50; Langdon, Chapter XXIII, Mohenjodaro & Indus Valley Civilisation, Vol. II, G.P. Hunter, Script of Harappa & Mohenjodaro & Its Connection with Other Scripts, p. 44.
2. J.A.S.B., 1837, p. 219; ibid., 1938.

at the time of Alexander's invasion.[1] But now it is evident from the literary and the palaeographic evidence that the Brāhmī script was in use long before the Mauryan period.[2] Therefore, its derivation from the Greek characters after the invasion of Alexander, is out of question.

The other group of scholars traced the origin of the Brāhmī alphabet from the Semitic writing. This theory was first sponsored by Sir William Jones in 1806.[3] Afterwards many scholars endorsed this view.

A. Weber was the first scholar who demonstrated the derivation of Brāhmī from the Phoenician characters.[4] R.N. Cust also expresses the view that there is striking resemblance between the Brāhmī alphabet and offshoots of the Phoenician alphabet found in Western Asia, Africa and Europe.[5] But G.R. Hunter and R.B. Pandey think that the Phoenician signs themselves are probably derived from Proto-Indian.[6]

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1. cf. R.N. Cust, J.R.A.S., 1884, p. 338.
2. cf. Bühler, Indian Palaeography, pp. 24-5; C.S. Upasak, History & Palaeography of Mauryan Brāhmī, p. 9.
3. cf. R.N. Cust, J.R.A.S., 1884, p. 325.
4. Z.D.M.G., X, p. 389 ff.
5. J.R.A.S., 1884, p. 330.
6. G.R. Hunter, Script of Harappa & Mohenjodaro & Its Relation with Other Scripts, p. 44; R.B. Pandey, Indian Palaeography, pp. 41-2.

G. Bühler has derived twenty-two characters of Brāhmī from the north Semitic characters which include Phoenician as well as Aramaic characters.[1] The remaining signs he has derived from these primary derivatives by mutilation, addition and transposition of parts. By the application of such methods any script can be derived from any other.[2] Bühler's theory suffers from a number of flaws. Firstly, he has violated the important principle of phonetic affinity which he himself enunciated and used as an argument for rejecting the theory of a South Semitic Origin, while deriving dha from Daleth, gha from Cheth, sa from Samekh, pa from Phe, kha from Qoph, cha from Tsade.[3]

Secondly, it is unsubstantiated as yet that the Indians had any direct communication with the men living on the borders of Palestine in the 7th or 8th century B.C.[4]

Third objection to this theory is that while deriving both Brāhmī and Kharoṣṭhī from the same source, Bühler has not been able to derive the same letter from one original Semitic character.[5]

1. Bühler, Indian Palaeography, pp. 24-30.
2. cf. Ojha, Bhāratīya Prāchīnalipimālā, p. 25.
3. Ibid., p. 24, f.n. 17.
4. cf. Rhys Davids, Buddhist India, p. 114; D.R. Bhandarkar, Sir Asutosh Mukerjee Silver Jubilee, II (Orientalia I), 508; David Diringer, The Alphabet, p. 335.
5. cf. Taraporewala, Fourth Oriental Conference Proceedings, II, 634, & Table III.

Fourthly, the Indian alphabet is written from left to right while the Semitic scripts are written from right to left. According to Bühler, the Eran coin legend and certain letters in the Aśokan inscriptions e.g. o of Jaugada and Dhauli; dha of Jaugada and Delhi-Sivalik (Bühler Table II, 8, VI, and 26, V, VI) and dha, da, bha in the Bhattiprolu relic casket inscriptions, indicate that Brāhmī was originally written from right to left.[1] But it is urged that the Eran coin legend is a mistake of the engraver of the die.[2] The dha and o of the Aśokan inscriptions are instances of wrongly engraved letters.[3] Moreover, the evidence of the reversed characters occurring in the Bhattiprolu casket inscriptions point to the carelessness of the scribe as the correct forms of the corresponding letters except da are found on the crystal-inscription, which is found with the first set of inscriptions.[4] Wickremasinghe[5] who is of the same opinion as Bühler, points to the conjuncts tpa, sta and vya, occurring in the Girnar Rock Edict of Aśoka, where the

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1. Indian Palaeography, p. 24.
2. Hultzsch, I.A., XXVI, 336; cf. Fleet, Introductory note on Bühler's Indian Palaeography, p. 11.
3. C.S. Upasak, History & Palaeography of Mauryan Brahmi, p. 11.
4. Ibid., p. 188.
5. J.R.A.S., 1901, pp. 302 ff; Ibid., 1895, pp.896-7.

letter to be pronounced first is engraved below and the one which is to be pronounced next is put above. He thinks that it is reminiscent of the practice of writing from right to left. But Bühler opines, that this has been done for the sake of convenience.[1] About the position of subscript r Wickremasinghe says that it is attached to the left side of the letter pronounced before, thereby making the group read from right to left.[2] On the contrary, keeping in mind the fact that r whether subscript or superscript was invariably shown by the curve or screw in the vertical part of another character, it can be realised that in the examples of conjuncts pra, sra, tra, kra except bra, given by Wickremasinghe, r could be shown only in that part of the letters pa, sa, ta and ka where it is shown. Regarding the form which is read bra by Bühler[3] and others, it is to be noticed that it is simply a ba whose left vertical bends due to the carelessness of the scribe. It is observed that ba or Bāhmaṇa in REG sometimes consists of a perfect square. Further Wickremasinghe points out the existence of some inscriptions in Ceylon, which actually read from right to left.[4]

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1. Bühler, Indian Palaeography, p. 56.
2. J.R.A.S., 1901, p. 303.
3. Indian Palaeography, p. 56.
4. J.R.A.S., 1895, p. 896.

D.R. Bhandarkar[1] has drawn our attention to certain Greek inscriptions discovered from the island of Santorin, which extend over two or three centuries. The earliest amongst these are written from right to left, while the latest run from left to right. He opines what has happened in Greece must also have happened in India and therefore we cannot attach too much weight to the direction of writing in the Aśokan inscriptions as an argument against Bühler's theory. D.C. Sircar also thinks that writing from right to left is an old trait of Brāhmī.[2] However, it may be remarked that the original direction of Brāhmī from right to left, might indicate its derivation from the script of the Indus Valley[3] and need not be taken as a proof of its derivation from the Semitic source.

The minor rock edict at Erragudi[4] presents an unusual style as some of its lines run from left to right and others from right to left. With one exception the lines running from right to left, terminate without reaching the point from where the lines running in the opposite direction generally begin. Further the letters are not engraved in regular lines, as a result of which

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1. Sir Asutosh Mukerjee Silver Jublee, III (Orientalia I), p. 506.
2. Select Inscriptions, 1st Ed. p. 52, f.n. 2; I.H.Q., VII, p.739, f.n. 2.
3. cf. D.C. Sircar, Select Inscriptions, 1st Ed., p. 233, f.n. 1.
4. Pl. facing p. 738, I.H.Q., Vol. VII.

the letters of one line have been mixed up with those of the other. The lines do not begin in all cases from one and the same point but occasionally from a point below the middle of the preceding line or from about the end of it. R.B. Daya Ram Sahni[1] regarded it as an instance of boustrophedon style of writing. However, N.P. Chakravarti[2] thinks that it is due to the lack of skill on the part of the scribe who started the first line from left to right and continued it from right to left till the matter in the first line of the original draft was finished. B.M. Barua[3] ascribes the abnormal style to the fact that the engraver was inefficient and that he was so accustomed to writing Kharoshṭhī that he could not leave this habit even while engraving an inscription in Brāhmī.

W. Deecke and Isaac Taylor trace the origin of Brāhmī from the South Semitic writing. Deecke derives it from the Cuneiform syllabary of Assyria and believes that the Brāhmī and Hymyaritic alphabets have originated from the same mother alphabet which he admits is an Hypothetical alphabet.[4] Taylor believes it to have been derived from the unknown parent of Sabean.[5] Besides the

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1. A.S.I., An. Rep., 1928-29, pp. 164-65.
2. Ancient India, No. 4, p. 19.
3. I.H.Q., IX, p.114-15.
4. Z.D.M.G., XXXI, p.598 ff; cf. J.R.A.S., 1884, p. 356.
5. The Alphabet, II, p.314 ff., Table on p. 320.

phonetic incongruities involved in Taylor's theory,[1] the parent of Sabean is unknown yet. Both Deecke and Taylor have not been able to point out the exact South Semitic script from which Brāhmī originated.

The derivation of Brāhmī from the script used in the Euphrates Valley, suggested by Rhys Davids is still less convincing. His view is that Brāhmī is derived neither from the North Semitic nor from the South Semitic writing but from the common source of the two i.e., the writing used in the Euphrates Valley.[2] This theory is merely conjectural and no attempt has been made to place it on factual ground.[3]

Theory of Indigenous Origin

The theory of indigenous origin of Brāhmī was first suggested by Lassen. Afterwards this view was upheld by Thomas, A. Cunningham, R. Shamaastry, S. Langdon, G.R. Hunter, D.R. Bhandarkar and others.

Lassen and Thomas derived Brāhmī from the Dravidian script.[4] The basis of Thomas' theory is the presence of cerebrals in the Indian alphabets. But this theory has

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1. cf. Bühler, On the Origin of the Indian Brāhma Alphabet, p. 52; Cunningham, Coins of Ancient India, pp. 39-40.
2. Buddhist India, p. 144.
3. cf. D.R. Bhandarkar, Sir Asutosh Mukerjee Silver Jublee, III (Orientalia I), p.507.
4. cf. Thomas, J.A.S.B., XXXV, p.138.

since long been discarded as the question of deriving the phonetically commodious Brāhmī from the phonetically poor Dravidian alphabet, does not arise.[1] Moreover, there is no evidence whatever to show that the Dravidians knew the art of writing before third century B.C.[2]

R. Shamsastry has attempted the derivation of Brāhmī from the Tantric symbols.[3] He seeks support for his theory from the name Devanāgarī applied to the Indian alphabet, by pointing out that the Tantric symbols were virtually devanagaras or abodes of gods. But no trace of the name Devanāgarī as applied to the Indian alphabet is found as early as Aśoka's time. The main objection to this view is that the Tantric texts on which he bases his theory are of a very late origin.[4]

D.R. Bhandarkar connects Brāhmī with the characters inscribed on the pre-historic pottery dug out in the Hyderabad cairns. He also points out to the five neoliths one of which found near Ranchi, bears three letters. Bhandarkar reads them as ma, a and to and opines that they closely resemble the corresponding Brāhmī characters.[5]

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1. cf. Dowson, J.R.A.S., 1881, p. 115; cf. R.B. Pandey Indian Palaeography, 2nd Ed., Pt. I, p. 36.
2. cf. Dowson, J.R.A.S., 1881, pp. 115-16.
3. I.A., XXXV, p. 255, ff.
4. cf. R.B. Pandey, Indian Palaeography, Pt. I, p. 37; cf. Upasak, History & Palaeography of Mauryan Brahmi, p. 12.
5. Sir Asutosh Mukerjee Silver Jublee, III (Orientalia I), 502-14.

But the nature of the so-called neoliths is doubtful as there is nothing to show that they were found in their natural position.[1] Asregards the signs on the pre-historic pottery, Bhandarkar believes some of them to be definitely alphabetical symbols and others to be pictographs. Though the evidence put forward by Bhandarkar is very meagre yet his theory cannot be categorically rejected as some of the signs seem to be expressing the medials too.

Alexander Cunningham considered Brāhmī to be purely of indigenous origin. He attempted to trace the origin of the Brāhmī characters from pictographs.[2] When Cunningham propounded this theory, sufficient evidence of the prevalence of pictographic writing in India was not available.

Since the discovery of the Indus Valley seals, attempts have been made to derive the Brāhmī script from the script of the Indus Valley. Professor S. Langdon has illustrated the derivation of many Brāhmī letters from this script.[3] G.R. Hunter has further elaborated this theory and has demonstrated in detail its derivation from the Indus Valley script.[4] R.B. Pandey and D.C.Sircar

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1. H.C. Das Gupta, J.A.S.B., 1921, pp. 209-12.
2. Inscriptions of Aśoka (CII, Vol. I), p. 52 ff.
3. Mohenjodaro and Indus Valley Civilisation, Vol. II, Chapter XXII.
4. Script of Harappa and Mohenjodaro and its connection with other scripts, p. 44 and comparative tables.

also believe that the Indus Valley script is the source of Brāhmī.[1] Anyhow, a detailed exposition of the origin of Brāhmī from indigenous sources is still awaited. At present, Mauryan Brāhmī remains unlinked from the preceding writing of India.

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1. Indian Palaeography, Pt. I, p. 51 and Table V; Ancient India, No. 9, p. 215.

CHAPTER 4

THE MAURYAN BRĀHMĪ

The earliest definite example of the use of Indian writing i.e. Brāhmī is furnished by a large number of inscriptions on stone pillars, rocks and on a stone slab, belonging to the Mauryan emperor Aśoka. Most of these have been edited by Hultzsch in 1925.[1] A few more

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1. C.I.I., Vol. I

i) REG, pls. facing pp. 4, 10, 14, 22, 26.
ii) REK, pls. facing pp. 44, 50.
iii) RED, pls. facing pp. 88, 94, 100.
iv) REJ, pls. facing pp. 104, 110, 116.
v) Bombay Sopara fragment of RE VIII, pl. facing p. 118.
vi) PEDT, pls. facing pp. 122, 123, 128, 129, 134.
vii) PEDM, pls. facing pp. 138, 139, 140.
viii) PELA, pls. facing pp. 142, 144.
ix) PELN, pls. facing pp. 148, 150.
x) PER, pls. facing pp. 152, 153.
xi) PE Allahabad Kauśāmbī; pls. facing pp. 156, 158.
xii,xiii) MP Edicts at Kauśāmbi, pl. facing p. 159.
xiv) MPE Sanchi, pl. facing p. 160.
xv) MPE Sarnath, pl. facing p. 162.
xvi,xvii) MPE Rummindei and Nigliva, pl. facing p. 164.
xviii) MRE Rupnath, pl. facing p. 166.
xix) MRE Sahasram, pl. facing p. 170.
xx) MRE Bairat, pl. facing p. 172.
xxi) MRE Calcutta-Bairat, pl. facing p. 173.
xxii) MRE Maski, pl. facing p. 174.
xxiii) MRE Brahmagiri, pls. facing pp. 176, 177.
xxiv) MRE Siddapur, pls. facing pp. 178, 179.
xxv) MRE Jatinga Rameśvara, pl. facing pp. 180, 181.
xxvi) Cave Inscr. Barabar, pl. facing p. 182.

inscriptions came to light after that. Two of these MRE Gavimath and Palkigundu have been edited in Hyderabad Archaeological Series, No. 10,[1] two others MRE Gujarra and Rajula-Mandagiri in Epigraphia Indica Volume XXXI,[2] RE Errangudi in A.S.I. An. Rep. 1928-29,[3] MRE Erragudi in Indian Historical Quarterly Volume VII,[4] Sopara fragment of RE IX in Epigraphia Indica XXXII[5] and MRE Ahraura in Select Inscriptions[6] (2nd Edition).

A Initial a has many variant forms. The most prevalent one consists of a vertical line with two curves in opposite direction appended in the middle to the left- 𑀅.[7] The other type is angular where the curved strokes are replaced by oblique lines - 𑀅.[8] Another type develops from the first one where the two curves have been joined

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1. Pl. I, III, IV.
2. Pls. facing p. 209, 216.
3. Pl. LXI.
4. Pl. facing p. 738.
5. Pl. facing p. 30.
6. Pl. VIII.
7. cf. a in REG I-10; RED I-4; REJ II-1; SREJ- 4; REK II-5; MRE Sahasram 1.6; MRE Maski 1.1; MRE Brahmagiri 1.2; MRE Siddapur 1.18; PEDT I-4; PEDM II-2; PELN I-2; PEAK V-1; MPE Kauśāmbī 1.4; MPE Rummindei 1.2; MRE Gujarra 1.1.
8. cf. a in REG I-8; RED V-2; REJ I-3; MRE Brahmagiri 1.5, PEAK II-2, MRE Rupnath 1.4; a in REK XIII-39.

together so as to form one single appendage thus - 𑀳.[1] Mixture of the cursive and angular types appear sometimes with the upper limb curved and the lower straight - 𑀳,[2] and sometimes with the upper limb straight and the lower one curved - 𑀳.[3] Occasionally, the two appended strokes meet the vertical at two points, a little apart - 𑀳.[4] Very rare and unusual forms - 𑀳, - 𑀳, - 𑀳, and 𑀳- are caused in MRE Erragudi, PEAK, MRE Brahmagiri and REK[5] respectively apparently due to carelessness of the scribe. A peculiar form of a having a loop in the left limb is found in REK XIII-36.[6] - 𑀳.

Ā The initial a is distinguished from the short a by a horizontal bar which is generally attached in the middle of the vertical on the right thus - 𑀴, 𑀴, 𑀴, 𑀴.[7]

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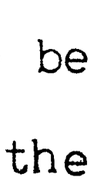
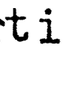
1. cf. a in SRED II-8; REK I-3; MRE Sahasram, l.5; MRE Maski l.6; PEDT V-15; PELA, I.3; PELN, III-3; PER, I-2; Rummindei l.5; MPE Nigliva l.3.
2. cf. a in SRED I-5; RE Sopara IX-2.
3. cf. a in MRE Rupnath l.4.
4. cf. a in REG I-6; RED I-4; SRED I-9; REG VI-3; SREJ I-1, MRE Maski l.5; MRE Siddapur l.4; PEDT I-2; PEDM IV-3; PEAK I-2; MPE Sanchi l.6; MPE Sarnath, l.8; MRE Ahraura l.7.
5. cf. a in MRE Erragudi l.8; PEAK I-2; MRE Brahmagiri l.1; REK III-8.
6. cf. a in apavuḍhe in REK XIII-35.
7. cf. ā in REK VI-17; RED I-4; SRED I-16; SREJ I-9; PEDM II-4; PELA II-1; PELN I-1; PER II-1; PEAK I-1; MPE Queen's l.3; MPE Kauśāmbī I.1; MPE Sarnath l.4; MPE Rummindei l.2; MRE Sahasram l.1; MRE Jatinga Rameśwar l.16; REJ I-3; MRE Rupnath l.1; MRE Siddapur l.4; MRE Brahmagiri l.9; MPE Nigliva l.3; MRE Ahraura l.12.

However, it is placed at the top in REG, MRE Gujarra and sometimes in the MRE Erragudi -  .[1] In the MRE Erragudi and MRE Rajula Mandagiri, the bar is sometimes seen a little below the top -  .[2] As in case of a so also here, the appended left hand strokes are sometimes curved and sometimes straight; sometimes touch the vertical at two points and sometimes meet each other before reaching the vertical.

I The form of initial i is expressed in five different ways. Generally two of its dots are placed in a vertical line and the third one to the right almost equidistant from the other two -  .[3] In MRE Rupnath appears an unusual form where the dots are replaced by short horizontal strokes retaining the above order -  .[4] The third type is different from the first in the point that its third dot is placed to the left instead of the right -  .[5] The fourth and fifth types have two dots arranged in a horizontal line and the third sometimes above them -  ,[6]

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1. cf. a in REG I-12; MRE Gujarra 1.3; MRE Erragudi 1.25a.
2. a in MRE Erragudi 1.22a; MRE Rajula Mandagiri 1.10.
3. cf. i in REG IV-11; REK I-3; RED III-2; SRED I-2; RE Bombay Sopara VIII-6; REJ I-1; SREJ I-3; PEDT I-2; PEDM II-5; PELA I-1; PELN I-1; PER I-1; MPE Sarnath 1.5; MRE Rupnath 1.5; MRE Sahasram 1.4; MRE Maski 1.6; MRE Brahmagiri 1.1; MRE Siddapur 1.2.
4. cf. i in MRE Rupnath 1.2.
5. cf. i in REG I-1; REK IV-11; SREJ I-10; PER V-1; PEAK I-1; MRE Siddapur 1.15.
6. cf. i in REG III-3; PEDT VII-12; PELA II-3; PER III-1; MPE Sarnath 1.7; MRE Maski 1.4.

and sometimes below them - ∴ .[1]

I Sign for initial ī is not found in the inscriptions of this period.

U The vowel u is indicated in two ways. One of them resembles the capital letter L of the Roman alphabet.[2] In the other form, the angle is replaced by a curve - ⌊ .[3]

Ū No sign for initial long ū is met with.

E Initial e is represented by a triangle of various types such as equilaterial △ , isoscles - ▷ , or right angled triangle - ◺ .[4]

Ai Sign for initial ai does not appear.

O The vowel o has two forms. One of them with the top-bar to the left and the bottom bar to the right side of a vertical line - ⅂ - appears everywhere[5] except in the RED and REJ which present a reverse form - ∫ .[6]

Au Sign for initial au is not seen in this period.

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1. cf. i in REG IX-7; PEDT I-9; MPE Sarnath 1.8; Cave Insc. Barabar I-2; MRE Ahraura 1.10.
2. cf. u in REG VI-10; REK II-6; RED II-4; SRED I-13; REJ II-4; SREJ I-7; PEDT I-5; PEDM IV-13; PELA I-4; PELN I-3; PER I-2; PEAK I-2; MPE Sarnath 1-7; MPE Rummindei 1.3; MRE Brahmagiri 1.3; MRE Siddapur 1.5; MRE Ahraura 1.8.
3. cf. u in MRE Sahasram 1.4; MRE Siddapur 1.6; PELA IV-3; RED VI-5.
4. cf. e in Queen's MPE 1.2; PEDT I-5; REK XIII, South face, 1.13.
5. cf. o in REG II-5; REK V-16; PEDT V-6; PELA V-4; PELN V-4; PER V-3; MPE Kauśāmbī 1.4; MPE Sanchi 1.5; MPE Sarnath 1.4.
6. cf. o in RED II-3; REJ II-3; MRE Ahraura 1.8.

Ka Ka is of two types. One of them which is represented by a cross-sign - + - is commonly used.[1] The other, dagger-shaped type - † - is occasionally met with in REK, PEDT, MPE Sarnath, MRE Rupnath and MRE Ahraura.[2]

Kha Kha is mainly of two types. Most prevalent one is formed by a hook having a dot at the lower end - ղ .[3] In the other, a circle or loop takes the place of the dot - ղ , ղ .[4] The form where nothing is added to the bottom - ղ - is not confined to REG, SRED, MRE Siddapur as noted by Bühler but appears in PEDT, PEDM, Slab Inscription Bhabru and Barabar cave inscription as well.[5]

Ga Ga appears in two types. The common type consists of two slanting strokes making an angle at the top - ∧ .[6] The advanced type where the angle becomes rounded - ∩ -

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1. cf. e.g. Ka in REG I-2.
2. cf. Ka in REK VI-18 (Hakaṁ); PEDT IV-14 (Kaṭe); MPE Sarnath 1.8; MRE Rupnath 1.3 (Kaṭe); MRE Ahraura ll. 2, 3, 5.
3. cf. Kha in REG I-2; RED II-4 (Khā); SRED I-5 (Kho); REJ I-1; SREJ I-3; PEDT I-2; PEDM III-2; PELA I-2; PELN I-2; PER I-2; PEAK I-1; MPE Sanchi 1.5; MPE Sarnath, 1.4; MRE Rupnath 1.3; MRE Maski 1.5; MRE Brahmagiri 1.4; MRE Siddapur 1.5; MRE Jatinga Rameśvara 1.4; RE Bombay Sopara VIII-5; MRE Ahraura 1.6 (Khu).
4. cf. Kha in REK I-2; SREJ I-1; PELN V-3; MPE Kauśāmbī 1.3; MPE Sarnath 1.4; MRE Sahasram 1.4; MRE Maski 1.4; PER III-1.
5. cf. Kha in REG IV-12; SRED I-9 (Khī); MRE Siddapur 1.9 (Khu); PEDT V-18 (Kha); Cave Insc. Barabar II-3; PEDM II-4.
6. cf. ga in REG I-11 (go); REK II-5; RED IV-2; SRED I-6; PEDT I-3; PEDM III-4; PELA I-2; PELN I-2; PER I-2; PEAK I-2; Queen's MPE 1.4; MPE Rummindei 1.2; MPE Nigliva 1.3; MRE Sahasram 1.4; MRE Bairat 1.6; MRE Siddapur 1.1; MRE Ahraura 1.7.

is also seen frequently.[1]

Gha Gha presents two types. Generally it consists of a vertical line with a curve appended at the bottom to the right which is bisected by a short vertical stroke - ঘ .[2] The other type though seen rarely shows angles at both the ends at the bottom - ঘ .[3]

Ṅa Sign for ṅa is not found.

Cha The form of cha consists of a vertical line with a somewhat semi-circular appendage at the bottom on its left side - ড .[4]

Chha Two types of chha are met with. The prevalent one consists of a vertical line with a circle at the bottom which is bisected by the vertical line passing through it - ছ .[5] The developed type having two loops on both

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1. cf. ga in REG VI-2; REX VI-18 (gā); RED VII-2 (gā); REJ IX-5; RE Bombay Sopara VIII-10 (ge); PEDT VII-29; PELA I-3 (ge); MRE Siddapur (gi) 1.3; MRE Brahmagiri 1.9; MRE Maski 1.3; MRE Calcutta Bairat 1.3; Cave Insc. Barabar I-2 (go).

2. cf. gha in REG IX-3 (gho); REK IV-9; RED IV-2 (gho); PEDT IV-8; PELA IV-4; PELN IV-4; PER IV-5; MPE Kauśāmbī 1.2; MPE Sarnath 1.3; MRE Bairat 1.3; MRE Brahmagiri 1.3; MRE Siddapur 1.6; Cave Insc. Barabar III-3.

3. cf. gha in REK XIII-37; RED IV-2.

4. cf. cha in REG I-3; REK II-5; RED II-3; SRED I-3; REJ I-2; SREJ I-1; RE Bombay Sopara VIII-7; PEDT I-5; PEDM II-4; PELA I-4; PELN I-3; PER I-3; PEAK I-2; MPE Kauśāmbī, 1.3; MPE Sarnath 1.2; MPE Rummindei 1.2; MPE Nigliva 1.1; MRE Sahasram I.5; MRE Brahmagiri 1.3; MRE Siddapur 1.3; MRE Jatinga Ramaśvara 1.14; MRE Ahraura 1.3.

5. cf. chha in REG I-12 (chhā); RED VII-1; SRED I-5; REK I-1; REJ VII-1; SREJ I-1; PEDT II-16; PEDM II-7; PELA II-4; PELN II-5; PER II-3; PEAK II-3; Queen's

sides of the vertical instead of one single circle - ꣡ - occurs only once in REK.[1]

Ja Ja is a semicircle facing right with an indenture in the middle dividing it into two halves - ꣢ .[2] The advanced type with straight back and resembling the capital letter Ꭼ of the Roman alphabet is also seen.[3] Sometimes it has a loop or dot or a short bar in the centre - ꣣ , ꣤ , ꣥ .[4]

Jha Jha is represented by a vertical line with an angular hook on the right, open at the top and appended in the middle - ꣦ .[5] In the other type, the appendage on the right becomes curved - ꣧ .[6]

Ña The letter ña presents two types. Generally it consists of a vertical stroke with a top-bar to the left and a second shorter vertical standing parallel to it at

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MPE 1.4; MPE Sanchi 1.7; MRE Rupnath 1.1; MRE Sahasram 1.1; MRE Maski 1.6; MRE Brahmagiri 1.2; MRE Siddapur 1.6.

1. cf. chha in REK V-14.
2. cf. ja in REG I-3; RED II-2; REJ I-1; PEDT IV-3; PELN I-1; MRE Brahmagiri 1.3; MRE Erragudi 1.12; MPE Sarnath 1.11; MRE Ahraura 1.8 (Jā).
3. cf. ja in REG IX-1; REK IV-11; MRE Rupnath 1.5.
4. cf. ja in REK I-4; PELN-II-1; RED I-3; PEDM II-1.
5. cf. jha in REG XII-9; REK XIV-20; RED VI-3; REJ XIV-1; SREJ I-5; PEDT I-7; PEDM V-4; PELA I-4; PER I-4; PEAK I-3.
6. cf. jha in REG VI-7; REK VI-19; SRED I-10

at a lower level and joined with the former by means of a bar at its top - ह .[1] In the second type the angular right limb is replaced by a curved one - ह .[2]

Ṭa The form of ṭa is a semi-circle open to the right - ट .[3]

Ṭha Ṭha is indicated by a circle - ठ .[4]

Ḍa The form of ḍa consists of a short vertical line with a top bar to the right and another vertical rising from the end of the bar - ड .[5]

Ḍha The form of ḍha is surprisingly similar to modern Nāgarī form of the letter without the top-mark - ढ .[6]

1. cf. ñ̃a in REG II-1 (ñ̃o); SRED II-6; MRE Brahmagiri 1.11; MRE Jatinga Rameśvara 1.18.
2. cf. ñ̃a in REG I.8.
3. cf. ṭa in REG IV-9; REK II-6; RED II-4 (ṭi); SRED I-2; REJ I-2; SREJ I-1; PEDT I-3; PEDM II-4; PELA-I-2; PELN I-2; PER I-4; PEAK I-1; MPE Kauśāmbī 1-2; MPE Sarnath 1.3; MPE Rumnindei 1.4; MRE Rupnath 1.3; MRE Brahmagiri 1.12; MRE Jatinga Rameśvara I.21; MRE Ahraura 1.5 (ṭā).
4. cf. ṭha in REK I-3 (ṭha); RED I-3 (ṭha); SRED I-7; REJ I-3; SREJ I-4; RE Bombay Sopara VIII-5; PEDT II-15; PEDM II-5; PELA III-3; PELN II-4; PER II-3; PEAK II-3; MPE Rummindei 1.5; MRE Rupnath 1.3; MRE Sahasram 1.4; MRE Bairat 1.7; MRE Brahmgiri 1.5; MRE Siddapur 1.13; MRE Ahraura 1.7 (ṭhā).
5. cf. ḍa in REG II-2 (ḍā); REK II-4; RED V-3; REJ II-1; PEDT I-1; PEDM III-4; PELA I-1; PELN I-1; PER I-1; PEAK I-1; MPE Rummindei 1.3; MRE Sahasram 1.4; MRE Bairat 1.6; MRE Brahmagiri 1.13; Cave Insc. Barabar II-2; MRE Rupnath 1.3.
6. cf. ḍha in REG IV-1; REK IV-10; PEDT VII-13; PEDM IV-14; PELN II-4; PEAK I-3; MPE Nigliva 1.2; MRE Rupnath 1.4; MRE Sahasram 1.5; MRE Bairat 1.8; MRE Brahmagiri 1.3; MRE Siddapur 1.5; MRE Jatinga Rameśvara 1.4; MRE Ahraura 1.3 (ḍham).

Na Na consists of one vertical bar with two horizontal bars appended at its both ends - 𑀦.[1]

Ta Ta usually consists of a slanting vertical line with another slanting vertical attached approximately in the middle on its right hand side - 𑀢 .[2] In another type, the slanting strokes are replaced by a curve - 𑀢 .[3]

Tha Normally tha consists of a circle with a dot in the centre - 𑀣 .[4]

Da Generally da is represented by a curve facing left with two short verticals attached to its upper and lower ends - 𑀤 .[5] Occasionally the middle bulge becomes an

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1. cf. na in REG I-9; SRED II-10; SREJ I-7; MRE Brahmagiri & Siddapur 1.1; MREJatinga Rameśvara 1.17.
2. cf. ta in REG XIV-2; MRE Ahraura 1.9 (tī).
3. cf. ta in SREJ I-2; PEDT VII-26 (in 2nd tesu); PEDM II-6 (tu); SRED II-10 (te); REK VI-18; MRE Erragudi 1.2; MRE Brahmagiri 1.4 (tu); MRE Ahraura 1.1 (ti).
4. cf. tha in REG I-11; REK IV-10; RED II-10; SRED I-4; REJ II-1; SREJ I-2; PEDT I-5; PEDM III-4; PELA I-3; PELN I-4; PER I-3; PEAK I-2;MPE Sarnath1.7; MPE Sanchi 1.8; MPE Rummindei 1.3; MPE Nigliva 1.2; MRE Rupnath 1.4; MRE Sahasram 1.6; MRE Siddapur 1.11; MRE Jatinga Rameśvara 1.12; Cave Insc. Barabar III-3; MRE Ahraura 1.11 (the).
5. cf. da in REG I-6 (de); REK I-2; RED I-1; SRED I-3; REJ I-2 (de); SREJ I-1 (de); PEDT VII-11; PEDM II-3; PELA I-1; PELN I-1; PER I-1; PEAK I-1; MPE Sanchi 1.5; MPE Sarnath 1.1; MPE Rummindei & Nigliva 1.1; MRE Rupnath 1.2; MRE Sahasram 1.3; MRE Maski1.8; MRE Brahmagiri 1.1; MRE Siddapur 1.8; MRE Jatinga Rameśvara 1.2; Cave Insc. Barabar II-1; MRE Ahraura 1.5 (de).

open square - ऽ .[1] An important form of da - ऽ - pointed out by V.V. Mirashi[2] appears in the MPE Sarnath, 1.4, 6, 7.

Dha Dha is of two types. The common type resembles the capital letter D of the Roman alphabet.[3] In the second type, the curve is on the left side of the vertical - ढ .[4]

Na Two types of na are met with. The prevalent one consists of a vertical line with a horizontal bar appended to its bottom - ऩ .[5] The other type is distinguished by its curved base line thus, - ऺ (nu), ऱ (ne) - instead of straight one and appears only in REK.[6]

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1. cf. da in REG II-4 (dve); RED VIII-1; SREJ I-8; RE Bombay Sopara VIII-9; PEDT I-1 (de); PEDM II-1; PEAK II-1; Queen's MPE 1.2; MRE Rupnath 1.1; MRE Bairat 1.4; MRE Maski 1.5.

2. J.N.S.I., XVI, pp. 205-06.

3. cf. dha in REG I-1; RED I-4; SRED I-8; REJ I-2; RE Bombay Sopara VIII-8; PEDT I-2; PEDM I-1; PELA I-1; PELN I-2; PER I-1; PEAK I-1; MPE Sarnath 1.4; MPE Rummindei 1.2; MPE Nigliva 1.2; MRE Rupnath 1.3; MRE Sahasram 1.6; MRE Brahmagiri 2; MRE Siddapur 1.4; MRE Ahraura 1.2 (dhi).

4. cf. dha in SRED II-6; SREJ I-4; PEDT VII-13; MRE Rupnath 1-4; MRE Maski 1.6; MRE Gujarra 1.1.

5. cf. na in REG, REK, RED, SRED, REJ, SREJ I-1; RE Bombay Sopara VIII-5 (ni); PEDT, PEDM, PELA, PELN, PER, PEAK I-1; Queen's MPE, MPE Kauśāmbī, MPE Rummindei & Nigliva 1.1; MPE Sanchi & Sarnath 1.3; MRE Gujarra 1.2; MRE Rajula Mandagiri, Rupnath, Sahasram, Bairat, Maski, Brahmagiri 1.1; MRE Siddapur 1.2; MRE Jatinga Rameśvara 1.15; MRE Ahraura 1.4.

6. cf. nu REK I-3 (anu); REK South Face, 1.14 (ne).

Pa Pa has two varieties. The common one is made of a vertical line with a curve appended to its bootom to the right - ∪ .[1] The other type is angular in which the lower part shows angles at both ends at the bottom - ⊔ .[2]

Pha The curve at the lower end of pa when turned inside converts it into pha - ϧ .[3]

Ba Ba is just a square in shape.[4]

Bha Bha is of two types. The prevalent one consists of two parallel vertical lines with a top-bar projecting to the right and a third vertical rising from the end of

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1. cf. pa in REG I-1 (pi); REK I-1; RED IV-8; SRED I-4; REJ I-1; SREJ I-1; PEDT I-1; PEDM II-1; PELA I-1; PELN I-2; PER I-1; PEAK I-1; Queen's MPE & MPE Kauśāmbī 1.1; MPE Sanchi 1.3; MPE Sarnath 1.4; MPE Rummindei & Nigliva 1.1; MRE Rupnath, Sahasram, Brahmagiri & Siddapur 1.1; MRE Jatinga Rameśvara 1.13; Cave Insc. Barabar I-1; MRE Gujarra 1.3 (pi); MRE Ahraura 1.3.

2. cf. pa in REG XIV-1 (pi); REK I-1 (pi); RED II-2; SRED I-8; REJ I-3; PELA VI-1; PELN I-4; PER IV-4; PEAK II-3 (in Pajantu); MRE Bairat 1.4.

3. cf. pha in REG IX-3; REK XII-35; RED IX-3; SRED I-4; REJ IX-3; SREJ I-11; PEDT V-5; PELA V-3; PELN V-4; PER V-3; PEAK V-2; MPE Sarnath 1.6; MRE Rupnath 1.2; MRE Brahmagiri 1.4; MRE Siddapur 1.8.

4. cf. ba in REG I-4; REK II-4; RED III-3; SRED I-4; REJ I-3; SREJ I-2; RE Bombay Sopara VIII-6 (Bam); PEDT II-11; PEDM II-2; PELA & PELN II-2; PER II-1; PEAK II-1; Queen's MPE 1.3; MPE Kauśāmbī 1.1; MPE Rummindei & Nigliva 1.2; MRE Rupnath 1.2; MRE Sahasram 1.1; MRE Bairat 1.4; MRE Brahmagiri 1.2; MRE Siddapur 1.5; MRE Jatinga Rameśvara 1.4; MRE Ahraura 1.12 (bu).

the bar - 𑀧 .[1] In the second type, the lower right vertical and the upper vertical strokes are made to coalesce into a single vertical - 𑀦 .[2]

Ma Ma has three varieties. The prevalent one consists of a circle with a semicircle placed above it - 𑀫 .[3] The second type which appears frequently in the Girnar rock edict is caused by the tendency to write without lifting the pen from the paper i.e. - 𑀬 - and results in the nearly same formation as the prevalent one.[4] The third type, distinguished by its rather angular appearance - 𑀭 - appears in REK.[5]

Ya Ya has two forms. One of them is formed by a vertical line with two small curves appended at its bottom

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1. cf. bha in REG I-11; REK, RED, REJ I-1; SRED I-3; RE Bombay Sopara VIII-10 (bhā); PEDT I-2; PEDM III-5; PELA, PELN & PER I-1; PEAK I-2; MPE Kauśāmbī 1.3; MPE Sanchi 1.5; MPE Rummindei & Nigliva 1.3; MRE Sahasram 1.8; MRE Maski 1.4; Cave Insc. Barabar II-3.

2. cf. bha in REG I-11; PELN I-3; MRE Rupnath 1.5; Cave Insc. Barabar I-2, II-2, MPE Sanchi 1.3.

3. cf. ma, in REG II-2; REK, RED, SRED, REG, SREJ I-1; RE Bombay Sopara VIII-8 (mā); PEDT I-2; PEDM, PELA, PELN, PER, PEAK I-1; Queen's MPE & MPE Kauśāmbī 1.1; MPE Sarnath 1.7; MPE Sanchi 1.4; MPE Nigliva 1.2; MRE Rupnath, Sahasram, Brahmagiri, Siddapur 1.1; MRE Bairat 1.3; MRE Maski 1.2; MRE Jatinga Rameśvara 1.16; MRE Gujarra 1.1 (me); Cave Insc. Barabar III-3; MRE Ahraura 1.6 (me).

4. cf. ma in REG I-1; MRE Siddapur 1.17; RED IV-7 (masa); REK III-7; MRE Bairat 1.6 (ichhāmi).

5. cf. ma in REK I-3 (aṭhakaṁme), VI-17.

on both sides - ⊥ .[1] In the other variety, a single curve takes the place of the two curves - ⊥ .[2]

Ra Ra is indicated in two ways. Sometimes it is represented by a wavy line - ⦚ ,[3] and sometimes by a straight vertical line - | .[4]

La Two types of la are met with. The prevalent one consists of a vertical with a curve appended to its bottom to the left and a short horizontal bar attached to the end of the curve - ⅃ .[5] Side by side another

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1. cf. ya in REG, REJ I-1; REK III-8; RED I-4; RE Bombay Sopara VIII-9 (ye); PEDT, PELA, PELN, PER; PEAK I-1; PEDM II-1; MPE Kauśāmbī 1.2; MPE Rummindei & Nigliva 1.1; MRE Rupnath 1.1; MRE Maski 1.6; Cave Insc. Barabar II-2; MRE Ahraura 1.1 (yo).

2. cf. va in REG I-1; SRED, REJ, SREJ I-1; REK II-4; PEDT VII-22; PELA & PER I-4; PELN II-4; Queen's MPE & MPE Kauśāmbī 1.1; MPE Sanchi & Sarnath 1.4; MRE Bairat, Sahasram, Maski 1.1; MRE Rupnath 1.2; MRE Brahmagiri, Siddapur 1.1; MRE Jatinga Rameśvara 1.2; Cave Insc. Barabar I-1; MRE Ahraura 1.6 (kya).

3. cf. ra in REG I-9; MRE Siddapur 1.3; MRE Jatinga Rameśvar 18; MRE Gujarra 1.3; MRE Rajula Mandagiri 1.14.

4. cf. ra in REG IV-9; MPE Sanchi 1.4; MRE Rupnath 1.3; MRE Maski 1.2; MRE Rajula Mandagiri 1.8; MRE Erragui 1.3.

5. cf. la in REG I-2 (le); REK I-3; REJ I-1; SREJ I-1; PEDT, PELA, PELN, PER, PEAK I-1; PEDM II-1; Queen's MPE 1.3; MPE Kauśāmbī 1.2; MPE Sanchi 1.8; MPE Sarnath 1.6; MPE Rummindei 1.4; MPE Nigliva 1.1; MRE Rupnath 1.2; MRE Sahasram 1.3; MRE Bairat 1.6; MRE Maski 1.6; MRE Brahmagiri 1.1; MRE Siddapur 1.2; Cave Insc. Barabar I-1; MRE Ahraura 1.3.

type with angular bottom - ɹ - appears in the REK, PEDT, PELA, REAK and MRE Rupnath.[1]

Va Va is made of a vertical line with a circle appended to its bottom - ɓ .[2]

Śa Śa has two forms. One is made up by a vertical bar, with curves emerging from its top and hanging on both sides - ʌ .[3] In the second, the curves are straightened and the central stroke slants to the right - ʎ (śi).[4]

Sha The form of sha consists of a vertical line with two roundish hooks, one appended at the bottom and another approximately in the centre, to the right hand side of the vertical - ƚ .[5]

Sa Sa consists of a central vertical line to which are appended two short curves, one at the bottom to the right hand side and the other a little above the bottom, to

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1. cf. la in REK XIV-23 (li); PEDT VII-27 (Kumālānaṁ); PELA I-1; PEAK V-2 (gelate); MRE Rupnath l.5.
2. cf. va in REG I-5 (vā); REK, REJ I-1; RED III-1; SRED I-2; SREJ I-1; PEDT III-21; PEDM II-1; PELA, PELN, PER, PEAK I-1; Queen's MPE l.1; MPE Sanchi l.5; MPE Sarnath l.1; MPE Rummindei & Nigliva l.1; MRE Rupnath, Sahasram, Bairat, Maski, Brahmagiri, Siddapur l.1; MRE Jatinga Rameśvara l.14; Cave Insc. Barabar II-3.
3. cf. Śa in REK XI-30; MRE Maski l.2; MRE Jatinga Rameśvara l.18.
4. Cf. Śa in e.g. REK XII-31 (apa Kalanaśi).
5. cf. Sha in REK XIII-39; Queen's MPE l.4; MRE Maski l.2.

the left hand side - ꣘.[1] Sometimes the curve on the left is reduced to a slanting line - ꣘.[2] An unusual cursive form of the letter where curve on the right becomes a loop - ꣘ - is occasionally met with.[3]

Ha Ha has four distinct shapes. Generally it is made up by a vertical stroke with a hook at the bottom to the right and a short horizontal bar appended a little below the end of the hooks - ꣙.[4] In the second variety the horizontal bar is drawn in continuation of the hook - ꣙.[5] The third type is cursive where the appendage on the right turns downwards - ꣙.[6] The fourth one is angular - ꣙ - and occurs occasionally.[7]

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1. cf. Sa in REG II-5; REK, SRED, REJ, SREJ I-1; RED II-1; RE Bombay Sopara VIII-8; PEDT, PELN, PER, PEAK I-1; PEDM II-1; PELA I-2; MPE Sanchi 1.4; MPE Sarnath 1.3; MPE Rummindei & Nigliva 1.1; MRE Brahmagiri 1.12; MRE Rupnath, Sahasram, Bairat, Maski, Siddapur 1.1; MRE Brahmagiri 1.12; MRE Jatinga Rameśvara 1.13; Cave Insc. Barabar I-1; MRE Ahraura 1.5 (saṃ).
2. cf. Sa in REG II-8; MRE Brahmagiri 1.12; MRE Siddapur 1.1; MRE Jatinga Rameśvara 1.2; REK XIII-South Face 1.15; MRE Gujarra 1.3; Cave Insc. Barabar II-3 (si).
3. cf. sa in REK IV-12; MRE Sahasram 1.5.
4. cf. ha in REG III-1; REK III-8; RED III-1; SRED II-8; REJ I-1; RE Bombay Sopara VIII-9 (ho); PEDT VII-27; PEDM II-2; PEAK I-1; MPE Sarnath 1.5; MPE Rummindei 1.2; MPE Nigliva 1.3; MRE Brahmagiri 1.1; MRE Maski 1.7; MRE Siddapur 1.4; MRE Jatinga Rameśvara 1.13; MRE Rupnath 1.1; MRE Sahasram 1.3.
5. cf. ha REG XI-1; SRED I-4; PEDT I-1; PEDM III-1; PELA, PELN, PER I-1; MPE Kauśāmbī 1.2; Queen's MPE 1.1; MPE Sanchi 1.7; MRE Rupnath 1.5; Cave Insc. Barabar I-2.
6. cf. ha in SREJ I-1.
7. cf. ha in PELA IV-2; PER IV-3.

Da In the Pillar edicts, one more letter da - 𑀥 - is found.[1] It is formed by placing a dot at the lower end of da as in Nāgarī. The signs for the medial vowels are very simple. A simple horizontal bar serves the purpose of ā, u, ū, e, ai and o with the change of the place, where it is appended.

ā The sign of medial ā is a horizontal bar which is generally attached to the right side of the consonant, at the top except in jā - 𑀚 , tā - 𑀝 (stā), thā - 𑀣 , thā - 𑀢, nā - 𑀦 and bā - 𑀩 - where it is attached in the middle.[2] In khā - 𑀕 and ñā - 𑀜 it is shown a little below the top.[3]

i Medial i has two varieties. One consists of an angular hook, placed at the top to the right - 𑀺 (mi).[4] The second type consists of a curve - 𑁂 (pi).[5] In case of thi - 𑀣𑀺 , bi - 𑀩𑀺 , khi - 𑀖𑀺 and thi - 𑀢𑀺 , the sign is joined in the middle.[6] In ni - 𑀦𑀺 , ji - 𑀚𑀺 and ti - 𑀣𑀺 , only the vertical part of the hook is seen, the horizontal having coalesced with the top of the consonant.[7]

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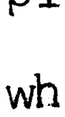
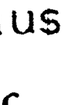
1. cf. di in PEDT V-4; da in PEDM V-11; di in PELA V-3; di in PELN V-3; di in PER V-2.
2. cf. ja in REG I-5; sta in REG V-4; tha in REK I-3; tha in REG I-9; na in REG I-11; ba in REG III-4.
3. cf. khā in REG II-8; cf. ñā in REG I-2.
4. cf. REG II-1.
5. cf. REG I-1.
6. cf. thi in MRE Bairat 1.7; khi in PEDT II-13; thi in PER I-3; bi in MPE Kauśāmbī 1.1.
7. cf. ni in SREJ I-7; ji in MPE Rummindei 1.1; ti in PEAK I-3.

ī Sign of medial ī consists of double angular hook - (kī)[1] or double curve -  (pī).[2] Another type of sign is seen where an angular hook is attached a little below the top of the letter, thus -  (vī).[3]

u The medial u is represented by a short horizontal or vertical bar, attached at the bottom. The horizontal bar is placed on the right hand side e.g. -  (du),  (tu),[4] where as the vertical hangs downwards e.g. -  (thu),  (bu),[5] the choice being dictated by the shape of the letter. Cursively drawn medial appears in pu -  - in the MRE Ahraura in 1.10 side by side with the regular form - - in 1.7.

ū The mdeial ū is formed by two horizontal or vertical bars. The horizontal bars are marked on the right hand side thus -  (kū),[6] whereas the verticals hang downwards thus -  (jū),[7] as in case of short medial u.

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1. cf. REG II-5.
2. cf. REG I-1.
3. cf. PEDT V-20.
4. cf. e.g. du in PEDT I-3; and tu in REG I-6.
5. cf. e.g. thu in MPE Nigliva 1.2 and bu in MPE Nigliva 1.2.
6. cf. REG II-8.
7. cf. REG I-3.

e The sign for the medial e is short horizontal bar, attached to the left side of the letters at the top - (me),[1] except in te - , the - , the - , be - , ne - and je - - where it is placed in the middle.[2] In khe - , ñe - , it is shown below the top.[3]

ai The medial ai is expressed by two parallel horizontal strokes, placed at the top, to the left - (mai).[4] In tha it is attached in the middle - .[5]

o The sign of medial o - (yo), (do) is the shortened form of the initial.[6] In certain letters, namely kh - (kho), j - (jo), ñ - (ño), dh - (dhə), b - (bo), and m - (mo), one bar is placed to the left hand side of the letter and the other to the right.[7]

Anusvāra The anusvāra is indicated by a dot which is mostly placed a little apart to the right of the consonant

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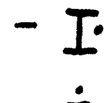
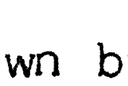
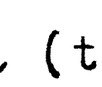
1. cf. e.g. me in PEDT I-7.
2. cf. te in MRE Rupnath 1.4; the in MRE Brahmagiri 1.7; the in REG II-8; be in MPE Nigliva 1.2; ne in REG IV-3; je in REK South Face XIII-9.
3. cf. khe in REJ I-1; ne in REG IV-7.
4. cf. MRE Brahmagiri 1.6.
5. cf. REG VIII-3.
6. cf. yo in REG I-4; and do in REG I-4.
7. cf. kho in REG X-4; jo in REG I-4; ño in REG I-8; dho in REG XII-8; bo in REG VIII-2; mo in REK South Face V-15.

-  (ṇaṁ).[1] Sometimes, it is found above the letter
-  (ṇaṁ).[2]

Conjuncts:

The letters in conjuncts are written one above the other as <u>sva</u> -  .[3] <u>R</u> whether superscript or subscript is shown by screws in the vertical part of the consonant thus -  (rva), (tra).[4] The conjuncts are sometimes engraved in reverse order i.e., the first below and the second above such as <u>vya</u> -  (yva), <u>tpā</u> - (ptā) and <u>sta</u> -  (tsa).

<u>Characteristics</u>

From the above study, some characteristic features of the Mauryan alphabet become apparent. Firstly, most of the letters consist of long vertical lines which are usually double the horizontal ones. Secondly, no top-marks are to be seen. Thirdly, the superscript and subscript <u>r</u> are inserted in the vertical part of the letter. Fourthly, the form of the Aśokan lingual <u>sha</u> is peculiar. Fifthly, two quite opposite forms of initial <u>o</u> and <u>dha</u> are met with.

<u>Varieties of the Mauryan Brāhmī</u>

Most of the scholars hold the view that the regional

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1. cf. <u>naṁ</u> in REG IV-9.
2. cf. <u>naṁ</u> in REG IV-8.
3. cf. SRED II-9.
4. cf. e.g. <u>rva</u> in REG II-4; <u>tra</u> in REG II-4.

varieties are expressed in the Mauryan Brāhmī.[1] However, except Bühler,[2] none of them has tried to establish the theory by giving specific examples. He points to the northern and southern forms of Brāhmī letters. But since his work many more inscriptions have been discovered, a majority of which come from southern India such as RE Erragudi, MRE Rajula Mandagiri, MREdicts Gavinath and Palkigundu and Sopara fragment of RE IX. The northern newly discovered inscriptions are MR Edicts from Gujarra and Ahraura. Taking all the records in consideration, it seems that the local varieties did not exist. Firstly, the so called southern types of a - 𑀅 , ā - 𑀆 , kha - 𑀔 , ja - 𑀚 , ma - 𑀫 , ra - 𑀭 , sa - 𑀲 and medial i - 𑀺 (si) - occur occasionally in the northern inscriptions as they do in the southern inscriptions. Secondly, even in the post-Mauryan script of the 2nd and 1st centuries B.C. no distinction can be made as southern and northern varieties. It is in the next century that southern forms start evolving. Thirdly, the southern peculiarities suggested by Bühler have no connection with the later southern characteristics. So it seems difficult to distinguish northern and southern varieties in the Mauryan Brāhmī.

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1. G.H. Ojha - Bhāratīya Prāchīnalipimālā, p. 49; R.B. Pandey - Indian Paleography, Pt. I, p. 18; R.D. Banerji - Origin of Bengali, Ed. 1919, pp. 8-11.
2. G. Bühler, Indian Palaeography, p. 51.

CHAPTER 5

POST - MAURYAN BRĀHMĪ

The process of evolution in the Indian-script can be traced by examining the inscriptions of each succeeding period. As we pass along the course of time, the change in the form of the letters becomes markedly discernible after intervals of approximately equal duration. This interval may be roughly put at about two hundred years.

The causes for the change are mainly three and may be set down as follows:-

1. Economy of effort.
2. Introduction of new tools or using the old tools in a new way.
3. Fondness for flourishes.

Economy of effort plays as important a part in the evolution of the script as it has played in the evolution of the Indian languages. Man always tries to reduce to the minimum, the labour involved in his various actions. The history of the evolution of writing from the picto-graphic script to modern alphabetic writings is nothing but the story of man's ceaseless efforts to save labour.

In the pre-historic period, he could communicate his ideas and feelings by drawing pictures which needed much skill and labour and the number of pictographic symbols which he required for his purpose was also very large. As a result of the tendency to save time and effort, he developed a simple system consisting of a limited number of alphabetic signs, through which he could convey all his thoughts and feelings.

The desire for speed in writing requires that there should be a continuous and unobstructed movement of the pen. Consequently in several inscriptions of the post-Mauryan period, it has resulted in shifting the <u>medial u</u> in <u>p</u>, <u>b</u>, <u>s</u> from the middle of the bottom to the right - the vertical stroke for the <u>medial u</u> being drawn in continuation of the right vertical line of the consonant, thus - 𑀼 (pu), 𑀽 (bu), 𑁅 (su).

Another example, the advanced form of <u>bha</u> where labour is saved by making the lower right vertical and the upper vertical to coalesce into a single vertical - 𑀪 - is less frequent in the Mauryan period and occurs rarely in REG I-12, VI-2, VIII-5, XII-9, XIII-7, MRE Rupnath 1.5, MPE Sanchi, SREJ II-2, PELN I-3 and in the Barabar cave inscription I-2, II-2.

But this advanced form with single right vertical line occurs in all the post-Mauryan inscriptions except

in the Besnagar inscription of the reign of Bhāgabhadra[1] which presents a peculiar form with a slanting upper vertical - ग (bha).

This can be seen in the form pu - 𑀧 - occurring in the Yaśamitā's brick tablet,[2(a)] in pu - 𑀧 , su - 𑀲 - in the Nanaghat ~~the~~ inscription of Queen Nāyanikā,[2(b)] in pu - 𑀧 , bu - 𑀩 - in the Hathigumpha inscription of Khāravela,[2(c)] in pu - 𑀧 - in the Bharhut-Stūpa Toraṇa inscription of the time of the Śuṅgas,[2(d)] in pu - 𑀧 - in the Mathura inscription of Utaradāsaka,[2(e)] and in pu - 𑀧 - in the Parkham image inscription[2(f)] where the old Mauryan forms pu, bu and su are replaced by the advanced forms having the medial attached to the right vertical of the letter. It may also be noticed that in these letters the vertical has been shortened as compared with the Mauryan forms.

A more advanced form of pu - 𑀧 - appears in the

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1. J.R.A.S., 1909, pl. facing p. 1054, l.2.

2(a) J.R.A.S., 1912, pl. facing p. 120.

2(b) D.C. Sircar, Select Inscriptions, pl. facing p. 186, l.1.

2(c) J.B.O.R.S., III, pl. facing p. 472, ll. 3, 5.

2(d) I.A., XIV, pl. on p. 139, l.3.

2(e) E.I., II, pl. facing p. 200, no. 1.

2(f) Journ. of Deptt. of Letters, 1921, pl. facing p. 46, right side.

Mathura inscription of Gotamimitra,[1(a)] Sanchi inscription of the time of Śātakarṇī,[1(b)] Ayodhya stone inscription of Dhana [deva][1(c)] and in the Mathura votive tablet of the time of Śoḍāsha.[1(d)] The form occuring in these inscriptions shows serif at the top of the left vertical.

The Besnagar Garuḍa pillar inscription of the reign of Bhāgabhadra,[2(a)] the Ghosundi slab inscription[2(b)] and Pathyar inscription[2(c)] do not display this development and present the old form with long vertical and with medial u attached in the middle of the bottom, thus -ꬽ (pu), ꬽ (pu), ꬽ (pu).

The same desire for economy of effort is responsible for the substitution of curves in place of straight lines and angles. This transition is noticeable in the Mauryan period itself in the letters ga, jha, ña, da, ta, na, bha, sa, medials i and ī. Obviously it is easier to draw a curved form which can be written hurriedly than to write an angular form, in writing which the hand is obstructed at the corner.

1(a) I.H.Q., II, pl. facing p. 440.
1(b) J.B.O.R.S., III, pl. III, l.2.
1(c) D.C. Sircar, Select Inscriptions, pl. facing p. 96, l.1.
1(d) E.I., II, pl. facing p. 200, no. ii, l.2.
2(a) J.R.A.S., 1909, pl. facing p. 1054, l.3.
2(b) E.I., XVI, pl. facing p. 25, l.1.
2(c) E.I., VII, pl. facing p. 118.

In the Mauryan alphabet, ga is generally represented by two slanting strokes making an angle at the top - Λ . The form with slightly rounded top in place of the angular top occurs in REG VI-3, REK VI-18, RED VII-2, REJ IX-5, MRE Siddapur 1.3, MRE Brahmagiri 1.9, PEDT VII-25, and in the PELA I-3.

The Minor rock edicts at Maski and Erragudi, in 11.3 and 8, the Bombay Sopara fragment of RE VIII-10 and the Barabar cave inscription I-2 present forms which are flattened at the top.

Evidently, the ga with rounded top does not represent the regional development as it is found in the inscriptions coming from all the four corners of the country. The existence of these advanced forms point to the fact that in the monumental alphabet of the inscriptions certain cursive forms have been brought in by the scribes from the alphabet which was in daily use in the Aśokan period through sheer force of habit.

This type of ga with rounded top occurs constantly in the post-Mauryan inscriptions. In the Besnagar Garuḍa Pillar inscription[1] both the angular - Λ - and slightly rounded - Λ - forms of ga are used side by side.

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1. J.R.A.S., 1909, pl. facing p. 1054, ll. 4, 2.

The Ghosundhi slab inscription,[1(a)] Kanhiara inscription[1(b)] and the Ayodhya stone inscription[1(c)] present the letter with a slightly rounded top -  ,  (gi),  (lgu).

A more advanced form of ga occurs in the Bharhut Stūpa-Toraṇa inscription of the time of the Śungas[2(a)] and Gotamimitra's inscription from Mathura[2(b)] where the top of ga has become considerably broad, thus -  ,  (gi).

However, the Nanaghat[3(a)] and Hathigumpha[3(b)] inscriptions display both the types-rounded topped -  , - and broad-topped - (gi), (go).

The Nanaghat inscription of Queen Nāyanikā[4(a)] and the Mathura votive tablet of the time of Śoḍāsha[4(b)] present the developed form of the letter with the curved left limb -  (bhi),  - respectively in place of the angular one.

1(a) E.I., XVI, pl. facing p. 25, l.1.

1(b) E.I., VII, pl. facing p. 118.

1(c) D.C. Sircar, Select Inscriptions, pl. facing p. 96, l.2.

2(a) I.A., XIV, pl. on p. 139, l.1.

2(b) I.H.Q., II, pl. facing p. 440.

3(a) D.C. Sircar, Select Inscription, pl. facing p. 186, l.3 (Sagara), l.3.

3(b) J.B.O.R.S., III, pl. facing p. 472, l.3.

4(a) D.C. Sircar, Select Inscriptions, pl. facing p. 186, l.8.

4(b) E.I., II, pl. facing p. 200, no. ii, l.2.

The Hathingumpha inscription of Khāravela[1] shows both the types i.e., with angular left limb - भ (bho) and with curved left limb - भ (bhi).

However, the form of bha with one straight vertical as the right limb and the curved left hand limb is found only once in the Mauryan inscriptions i.e. in REG VI-2.

The replacement of the straight bar by a curve which occurs in the case of na, only at Kalsi in the Mauryan period becomes more frequent in the post-Mauryan period both in ṇa and na.

In the Mauryan alphabet, ṇa (I) is represented by two parallel horizontal bars with a vertical line in between them. This form is used in most of the post-Mauryan inscriptions i.e. in the Besnagar inscription,[2(a)] Ghosundi inscription,[2(b)] Pathyar inscription,[2(c)] Hathigumpha inscription,[2(d)] Bharhut Stūpa Toraṇa inscription of the time of the Śuṅgas[2(e)] and in the Sanchi inscription of the time of the Śātakarṇī.[2(f)] But the advanced

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1. J.B.O.R.S., III, pl. facing p. 472, l.6 (bhojaka and abhisito).

2(a) J.R.A.S., 1909, pl. facing p. 1054, l.2.

2(b) E.I., XVI, pl. facing p. 25, l.1.

2(c) E.I., VII, pl. facing p. 118.

2(d) J.B.O.R.S., III, pl. facing p. 472.

2(e) I.A., XIV, pl. on p. 139, l.2.

2(f) J.B.O.R.S., III, pl. III, l.1.

form where either one or both the horizontal bars become curved is also noticeable in this period.

The Ayodhya stone inscription of Dhana [deva][1] presents a form where only lower horizontal bar is turned into a curve, the upper one remaining straight - 𑀮 .

The form of na (𑀦) in the Mauryan period consists of a vertical stroke standing on a shorter horizontal line except at Kalsi where the horizontal base becomes a curve in RE I-3 and in REK South Face 1.14. The forms are - 𑀦𑁄 (nu) and - 𑀦𑁂 (ne). The straight base continues in the following records of the post-Mauryan period also:-

1. The Besnagar Garuḍa pillar inscription.[2(a)]
2. The Ghosundhi stone inscription.[2(b)]
3. The Nanaghat inscription of Queen Nāyanikā.[2(c)]
4. The Bharhut Stūpa Toraṇa Inscription.[2(d)]
5. The Parkham image inscription.[2(e)]
6. The Sanchi Inscription of the time of Śātakarṇi.[2(f)]
7. The Mathura votive tablet of the time of Śoḍāsha.[2(g)]

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1. D.C. Sircar, Select Inscriptions, pl.facing p. 96,l.1.
2(a) J.R.A.S., 1909, pl. facing p. 1054, l.3.
2(b) E.I., XVI, pl. facing p. 25, l.1.
2(c) D.C. Sircar, Select Inscriptions,pl.facing p.186,l.1.
2(d) I.A.,XIV, pl. on p. 139, l.1.
2(e) Journ. of Deptt. of Letters, 1921, pl. facing p. 46, left half.
2(f) J.B.O.R.S., III, pl. III, l.3.
2(g) E.I., II, pl. facing p. 200, no. ii, l.1.

The advanced form of <u>na</u> where the horizontal base is replaced by a curve - 𑀦 (naṁ), - 𑀦 (naṁ), - 𑀦 , - 𑀦 - appears in the Mathura inscriptions of Utaradāsaka[1(a)] and Gotamimitra[1(b)] and in the Ayodhya stone inscription of Dhana /deva/[1(c)] respectively.

In the Hathigumpha inscription[2] both the archaic - 𑀦 (naṁ) and the advanced - 𑀦 - forms occur side by side.

It is noticeable that the form of the <u>na</u> occurring in the Mathura inscription of Utaradāsaka is without thick top while others show thickening at the top.

The long verticals of the Mauryan letters <u>na</u>, <u>pa</u>, <u>ya</u>, <u>sha</u>, <u>sa</u> and <u>ha</u> are occasionally shortened in the post-Mauryan period though the rare occurrence of the short-verticaled <u>na</u> - 𑀦 and <u>la</u> - 𑀮 (li) is noticeable in the REK XI-29, I-1. Dani[3] attributes this phenomenon to the use of the square omicron on the Śaka and Parthian coins which astonishingly affected Indian writing.

Among the post-Mauryan inscriptions, only the Ghosundi stone inscription[4] preserves the long verticals

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1(a) <u>E.I.</u>, II, pl. facing p. 200, no. 1.
1(b) <u>I.H.Q.</u>, II, pl. facing p. 440.
1(c) D.C.Sircar, <u>Select Inscriptions</u>, pl. facing p. 96, l. 1.
2. <u>J.B.O.R.S.</u>, III, pl. facing p. 472, l. 1.
3. <u>Indian Palaeography</u>, p. 52.
4. <u>E.I.</u>, XVI, pl. facing p. 25.

in all the letters, whereas both long and short verticals are used in the other inscriptions. For example in the Besnagar Garuḍa Pillar inscription,[1(a)] the letter ya - ↓ , - Ψ (yo), in the Bharhut Stūpa Toraṇa inscription[1(b)] pa - ψ (pu), - ψ (pu), in the Hathigumpha inscription[1(c)] pa - ψ , ψ , ya - ψ (yu), ω , sa - ϖ , ϖ (se), ha - ψ , ψ - are written sometimes with long and sometimes with the short verticals.

The shortening of verticals is further seen generally in the letters pa - ψ , ya - Ψ , sa - ϖ and ha - ψ - of the Nanaghat inscription[2(a)], in na - ⊥ , pa - ψ (pu), ha - ψ - of the Mathura inscription of Utaradāsaka[2(b)], in pa - ψ (pu) of the Parkham image inscription[2(c)] and in pa - ψ (pu), ya - Ψ and sa - ϖ - of Gotamimitra's inscription from Mathura.[3(d)]

A more advanced stage of development is found in pa - ψ (pu) and sa - ϖ - of the Sanchi inscription of

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1(a) J.R.A.S., 1909, pl. facing p. 1054, ll. 1.4.

1(b) I.A., XIV, pl. on p. 139, l.2.

1(c) J.B.O.R.S., III, pl. facing p. 472, ll.11, 4, 3, 4, 1, 5, 3, 4 respectively.

2(a) D.C. Sircar, Select Inscriptions, pl. facing p. 186, ll. 5, 3, 1, 2.

2(b) E.I., II, pl. facing p. 200, no. 1.

2(c) Journ. of Deptt. of Letters, 1921, pl. facing p. 46, right side.

2(d) I.H.Q., II, pl. facing p. 440.

the reign of Śātakarṇī[1(a)], in pa - 𑀧 (pu), ya - 𑀬𑁄(yā), sha - 𑀰 , and sa - 𑀲 - of the Ayodhya stone inscription[1(b)] and in gha - 𑀖 (ghaṁ), pa - 𑀧 , ya - 𑀬 (ye), sha - 𑀰 (she), sa - 𑀲 and ha - 𑀳 - of the Mathura volive tablet of the time of Śoḍāsha.[1(c)]

Another change is discernible in the inscriptions of this period, i.e., the development of top-marks. Dani[2] ascribes this feature to a new writing tool, a broad or edged pen which produced tapering vertical lines having thick-tops as is seen in the Ghosundi inscription.[3] The thick-heads later resulted into short horizontal bar or thick bar. The box-heads and nail heads seem to have developed out of the tendency to beautify things which is noticeable in other human arts also. Contrary to the tendency to economise, it involves much more labour which is exhibited for example by box-heads in place of simple strokes. The development of the top-marks plays as important a part in the evolution of the Indian script as economy of effort. It has distinguished Nāgarī from the Mauryan Brāhmī to such an extent that H.K.Bhattacharya

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1(a) J.B.O.R.S., III, pl. III, ll.2, 1.

1(b) D.C. Sircar, Select Inscriptions, pl. facing p. 96, ll.2, 2.

1(c) E.I., II, pl. facing p. 200, no. ii, ll.3, 2, 1, 3, 2, 1, respectively.

2. Indian Palaeography, p. 52.

3. E.I., XVI, pl. facing p. 25.

has emphatically asserted that Brāhmī cannot be called the mother of Nāgarī and that the latter has a different origin.[1] But a careful study of the successive stages of development of the top-marks, establishes beyond doubt that the long horizontal bars of Nāgarī letters have developed from the thick tops which first made their appearance in the post-Mauryan period.

The Mauryan letters in majority of cases consist of long verticals with appendages at the bottom or sometimes both at the bottom and at the top. But there are no traces of any thing like a topmark on any of the letters. Even in the post-Mauryan period, the top-marks appeared rather late. For example, in the Besnagar Garuḍa Pillar inscription of Heliodorus[2(a)] and the Nanaghat inscription of Nāyanikā,[2(b)] the letters with the topmarks are still wanting.

The small top-marks first appear in the northern inscriptions, i.e. Mathura inscriptions of Gotamimitra[3(a)] Sanchi inscription of the time of Śātakarṇī,[3(b)] Ayodhya Stone inscription of Dhana /deva/[3(c)] and the Mathura votive tablet of the time of Śoḍāsha.[3(d)]

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1. Languages and Scripts of Ancient India, pp. 113-14.
2(a) J.R.A.S., 1909, pl. facing p. 1054.
2(b) D.C. Sircar, Select Inscriptions, pl. facing p. 186.
3(a) I.H.Q., II, pl. facing p. 440.
3(b) J.B.O.R.S., III, pl. III.
3(c) D.C.Sircar, Select Inscriptions, pl. facing p. 96.
3(d) E.I., II, pl. facing p. 200, no. ii.

Post-Mauryan Alphabet

The post-Mauryan alphabet represents the transitional or intermediate stage between Aśokan and Kushāṇa Brāhmī. The letters of some inscriptions of this period e.g. Yaśamitā's brick tablet, the Besnagar Garuḍa Pillar inscription of the time of Bhāgabhadra, Ghosundi and Pathyar inscriptions, and Bharhut Stūpa Toraṇa inscription do not show much difference from those of Mauryan letters. Another group of inscriptions such as Parkham, Utaradāsaka's Mathura inscription, Bhattiprollu, Nanaghat and Hathigumpha inscriptions show a little advancement. A still more developed script is met with in the Mathura inscription of Gotamimitra, Sanchi inscription, Ayodhya stone inscription of Dhana /deva/, Mathura votive tablet of the time of Śoḍāsha and Kanhiara inscription where the verticals of most of the letters have been shortened and top-marks have been developed. The tendency to substitute curves for angles is also noticeable. Some of the letters such as gha, pa, ya, va, etc. have developed flat-bottoms in place of round ones.

The general changes that took place have already been noticed. A detailed study of the epigraphic records of this period is presented below.

A, Ā During this period, the letters a and ā have three different types, two of which are new and do not occur in the Mauryan period. One of the new forms is found

in the Mathura votive tablet of the time of Śodāsha[1(a)] and Kanhiara inscription[1(b)] in which the vertical on the right has become considerably long - ਮ , ਮ.

I The form of i continues in the old way.

Ī In the opinion of D.C. Sircar, initial long ī is formed by four dots -∴- in the Nanaghat inscription.[2] But R.D. Banerji takes the fourth dot as anusvāra and reads the syllable as iṁ.[3] In these circumstances, we cannot be sure that the four dots in the Nanaghat cave inscription represent a long initial ī.

U The sign of initial u does not show any change.

Ū The form of initial long ū is represented by the shape of short u with an additional shorter horizontal bar attached a little above the lower one, thus -ਟ - as in the Mathura inscription.[4]

E The form of e remains unchanged.

Ai The sign for ai -ਗ - consists of a triangle with a horizontal bar attached to the left side of the top as in the Hathigumpha inscription.[5]

1(a) E.I., II, pl. facing p. 200, no. ii, l.1 (a).
1(b) E.I., VII, pl. facing p. 118 (ā).
2. D.C. Sircar, Select Inscriptions, pl. facing p. 186, l.1.
3. Memoirs of the Asiatic Society of Bengal, XI, p. 136.
4. E.I. X, pl. II between pp. 106-07, no. xii.
5. J.B.O.R.S., III, pl. facing p. 472, l.1 (Aireṇa) (Prinsep, Mitra and Indraji read it as ve and Banerji as Kha. But after carefully noting the forms of va and kha occurring in this inscription, it is clear that there is not a single example where va or kha have been reduced to a mere triangle).

O The form of initial o is similar to Aśokan type in which the upper horizontal bar is attached to the left side of the vertical and the lower one to the right side of the vertical.

KA The dagger-shaped ka which appears rarely in the Aśokan inscriptions becomes more common now.

Kha The letter kha appears in three types, two of which are old. The new type - 𑀔 (khi) as it appears in the Mathura inscription,[1] has a triangle at the bottom instead of the circle and the vertical of the hook has considerably been reduced.

Ga The letter ga continues as before.

Gha Gha appears in two different types, one of which is new. In the new type, the left vertical is shortened - 𑀖 (gho) as in the Mathura votive tablet of the time of Śoḍāsha.[2]

Ña The form of ña is not found in this period.

Cha Two types of cha occur. Side by side with the archaic form we have an advanced form in which the vertical has been shortened and the oval appendage at the bottom has become a triangle with its sides curved - 𑀘 (chi), as in the Hathingumpha inscription.[3]

Chha The letter chha has two types as in the preceding

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1. E.I., II, pl. facing p. 200, no. i.
2. E.I., II, pl. facing p. 200, no. ii, l.3.
3. J.B.O.R.S., III, pl. facing p. 472, l.5.

period. However, the advanced form which was met with only in REK becomes more common in this period.

Ja and Jha Ja retains all the three old types. Jha remains unchanged.

Ña The letter ña has two types. One of these is new. It appears in the Bharhut-Stūpa Toraṇa inscription[1] where the central vertical has been made longer as compared with that of the right hand appendage - ञ (ño).

Ṭa and Ṭha The forms of ṭa and ṭha are as they were in the preceding period.

Ḍa The letter ḍa has assumed a new form - ड (ḍā) in the Mathura votive tablet of the time of Śoḍāsha[2] where the sharp bend in the centre, has been considerably reduced.

Ḍha Ḍha preserves its old form.

Ṇa The letter ṇa has two distinct types, one of which is new. In the new type - ण - which occurs in the Ayodhya inscription of Dhana /deva/,[3] the horizontal base gives place to a curve.

Ta The letter ta is expressed in three different ways, one of which is new and appears in this period for the first time. In the new type, the vertical part of the letter is replaced by the top-mark and the lower appendage becomes curved - त्स (tsa) as in the Mathura votive tablet

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1. I.A., XIV, pl. on p. 139, l.1.
2. E.I., II, pl. facing p. 200, no. ii, l.2.
3. D.C.Sircar, Select Inscriptions, pl. facing p.96, l.1.

of the time of Śoḍāsha.[1]

Tha The form of tha is as it was in the Aśokan period.

Da The letter da presents three types. Two of them have already been noticed in the preceding period. The new type appears in the Mathura votive tablet of the time of Śoḍāsha.[2] In this type, the curve in the centre has become very shallow and the vertical at the lower end is turned in a curve to the right, thus - ξ (di).

Dha Only one type of dha with the semicircular part to the left of the vertical, occurs.

Na Two types of na are found, the archaic one and the advanced one. The latter where horizontal base is replaced by a curve - ⊥ - appears for example in the Mathura inscription of Utaradāsaka.[3]

Pa Pa has two different types. Side by side with the old forms, we get new ones - ∪ , ∪ - with shortened vertical line as in the Nanaghat inscription of Nāyanikā[4(a)] and Ayodhya inscription of Dhana [deva][4(b)] respectively.

Pha Pha has also developed a new form with short vertical - ʊ - in the Ayodhya inscription.[5]

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1. E.I., II, pl. facing p. 200, no. ii, l.2.
2. Ibid.
3. Ibid., no. i.
4(a) D.C.Sircar, Select Inscriptions, pl. facing p. 186, l.5.
4(b) Ibid., pl. facing p. 96, l.1.
5. Ibid., l.2.

Ba Ba has retained its old form.

Bha Three forms of bha are met with. The Aśokan form where the letter has a single straight vertical on the right continues in use for sometime as can be seen from its occurrence in the Ghosundi stone inscription.[1] A more advanced form - ध - is found in the Mathura inscription of Gotamimitra,[2] where a top-mark is in evidence on the right vertical, the horizontal middle bar is bending towards the left instead of being straight and the left vertical has been so shortened as to look like a part of the middle bar hanging from its left tip. A still more advanced type - ध - occurs in the Mathura votive tablet of the time of Śoḍāsha[3] where the vertical part between the top-mark and the middle horizontal bar has disappeared and the angular left-hand limb has been replaced by a cursive form.

Ma The letter ma presents three types. The Aśokan type with a semicircle placed above a circle, is frequent. Side by side an advanced form - ४ - is developed in which the lower part becomes triangular as in the Hathigumpha inscription of Khāravela.[4] A third variety - ४ - the angular type which we first see in REK, VI-17 occurs in

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1. E.I., XVI, pl. facing p. 25, l.2.
2. I.H.Q., II, pl. facing p. 440.
3. E.I., II, pl. facing p. 200, no. ii, l.2.
4. J.B.O.R.S., III, pl. facing p. 472, l.1.

the Mathura votive tablet of the time of Śoḍāsha[1(a)] and in the Kanhiara inscription.[1(b)]

Ya Out of the three distinct types of ya in this period, two are new. Of the new types, one occurs in the Bhattiprolu crystal inscription[2] and is distinguished from the old type by its short central stroke -ᄼ . The other type -ᄽ (yā) is more advanced in as much as, it has developed a hook on the left side of the central stroke and it has become broader than before. This occurs in the Ayodhya inscription of Dhana ⌊deva⌋[3].

Ra Ra is of three shapes, two of which the cork-screw and straight - verticalled ones are old. The third type - ᄀ - slightly curving to the left at the bottom is seen in the Mathura votive tablet of Śoḍāsha.[4]

La Three types of la are met with. The Aśokan type with round lower part occurs frequently. Another type with lower portion showing angles instead of curves at both ends at the bottom and the vertical bending to the left -ᄂ - appears in the Ayodhya stone inscription[5(a)] and Mathura votive tablet of the time of Śoḍāsha.[5(b)]

1(a) E.I., II, pl. facing p. 200, no. ii, l.1.
1(b) E.I., VII, pl. facing p. 118.
2. E.I., II, pls. between pp. 328-29, no. x, l.5.
3. D.C. Sircar, Select Inscriptions, pl. facing p. 96, l.1.
4. E.I., II, pl. facing p. 200, no. ii, l.4.
5(a) D.C. Sircar, Select Inscriptions, pl. facing p. 96, l.1.
5(b) E.I., II, pl. facing p. 200, no. ii, l.2.

Va Va has four types. The Aśokan type with a circle below the vertical is preserved as seen in the Besnagar, Ghosundi, Nanaghat and Hathigumpha inscriptions. Of the new types, one is seen in the Mathura inscription of Utaradāsaka[1] where the circle gives place to a triangle - ∆ . The intermediate form - ∆ - where circle tends to become a triangle appears in the Bhattiprolu[2(a)] and Sanchi (Southern gate) inscriptions.[2(b)] A still more developed type - ∆ - is met with in the Ayodhya inscription[3] where the triangle is placed just below the top-mark, the vertical part having disappeared altogether.

Śa Śa has two types. One of the Aśokan types with two slanting strokes meeting at the top and the central stroke hanging from the left limb continues in use for sometime as can be seen from its occurrence in the Ghosundi stone inscription.[4] And advanced type - ศ (śo), ศ - in which the angular top seen at Kalsi becomes broad, occurs in the Mathura votive tablet of the time of Śoḍāsha[5(a)] and in the Kanhiara inscription.[5(b)]

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1. E.I., II, pl. facing p. 200, no. i.
2(a) Ibid., pl. between pp. 328-29, no. x, l.2.
2(b) J.B.O.R.S., III, pl. III, l.2.
3. D.C. Sircar, Select Inscriptions, pl. facing p. 96, l.2.
4. E.I., XVI, pl. facing p. 25, l.3.
5(a) E.I., II, pl. facing p. 200, no. ii, l.2.
5(b) E.I., VII, pl. facing p. 118.

Sha Sha presents two types. Both of them are markedly developed as compared to the Aśokan form. One of them - ৳ (rsha) appears in the Ghosundi stone inscription[1] where the lower curve is slightly raised up and the upper one is reduced to a short horizontal stroke. A more advanced type - ষ - with the lower portion showing angles instead of curved at both ends at the bottom and the vertical being shortened appears in the Ayodhya inscription of Dhana ⌈deva⌋[2(a)] and Kanhiara inscription.[2(b)]

Sa Sa presents three types. The old type with long vertical continues. Side by side occurs a new type with shortened vertical - স - as in the Bhattiprolu[3(a)] and Hathigumpha inscriptions.[3(b)] The third variety is distinguished from the second by the addition of the top-mark, thus - স্ - as in the Ayodhya stone inscription of Dhan ⌈deva⌋[4].

Ha Three types of ha appear. The Aśokan forms with round as well as angular bottom continue as in the Besnagar, Nanaghat and the Mathura inscriptions. The new form - ৸ - where the vertical is shortened occurs

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1. E.I., XVI, pl. facing p. 25, l.2.
2(a) D.C. Sircar, Select Inscriptions, pl. facing p. 96, l.1.
2(b) E.I., VII, pl. facing p. 118 (Shṇa).
3(a) E.I., II, pl. between pp. 328-29, no. x, l.1.
3(b) J.B.O.R.S., III, pl. facing p. 472, l.5.
4. D.C. Sircar, Select Inscriptions, pl. facing p. 96, l.1.

in the Mathura votive tablet.[1]

ā As in the preceding period, the sign for the medial ā is generally a horizontal bar attached mostly at the top to the right side of the consonants. However, in case of jā, ṭā and ṇā it is placed in the middle and in mā it is mostly shown at the top and rarely in the middle as in the Hathigumpha inscription. A noteworthy form is to be found in the Mathura votive tablet[2] where the horizontal bar has been replaced by a slanting line pointing to the right - ऴ (pā).

i Four distinct signs for the medial i are met with in this period. The old angular form with equal componants is preserved in the Besnagar, Ghosundi and Nanaghat inscriptions. Side by side with the old cursive form, a new form - } (ri) is developed where the curve is drawn upwards in a vertical line as in the Hathigumpha inscription.[3] In a more developed form it reduces to a semi-circle - ऽ (hi) as in the Mathura votive tablet of the time of Śoḍāsha.[4] It is noticeable that the medial is attached at the top in ṭhi - ऻ occurring in the Hathigumpha inscription.[5]

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1. E.I., II, pl. facing p. 200, no. ii, l.1
2. Ibid., l.2.
3. J.B.O.R.S., III, pl. facing p. 472, l.5.
4. E.I., II, pl. facing p. 200, no. ii, l.3.
5. J.B.O.R.S., III, pl. facing p. 472, l.1.

ī The medial ī occurs in three forms, two of which are old Aśokan types. The third variety resembles the capital letter U of the Roman alphabet as in vī - ꭹ - of the Nanaghat inscription.[1] An unusual form - 𑀖𑁆𑀻 (gī) is seen in the Bharhut Stūpa Toraṇa inscription.[2]

u As in the preceding period, the medial ū is mostly represented by a short vertical or horizontal stroke. However, the vertical stroke has been shifted from the middle of the bottom to the right in case of p, b, s as has already been noticed. A developed form is seen in qu -𑀓𑁆𑀼 - in the Hathigumpha inscription[3] where the old horizontal bar has been replaced by a hook.

ū The sign for the medial ū occurs rarely and shows no change.

e The sign for the medial e is generally a horizontal bar as in the preceding period. Side by side with it, we find a slanting stroke bending left wards, thus, -𑀏 (ye) as in the Mathura votive tablet of the time of Śoḍāsha.[4] As in the Aśokan period, the medial vowel is generally attached at the top but sometimes in the middle as in the case of the letter m. Contrary to the

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1. D.C. Sircar, Select Inscriptions, pl. facing p.186, l.3.
2. I.A., XIV, pl. on p. 139, l.1.
3. J.B.O.R.S., III, pl. facing p. 472, l.17.
4. E.I., II, pl. facing p. 200, no. ii, l.2.

practice of Aśokan times, in the Hathigumpha inscription[1] the medial is placed at the top of <u>the</u> - ⊙ (the) - instead of in the middle. Similarly, in the Nanaghat inscription,[2] it is added to <u>b</u> at the top - ⊔ (be).

<u>ai</u> The sign for the <u>medial ai</u> is as it was in the Aśokan period.

<u>O</u> The <u>medial o</u> has four signs. Three of them are old, one of which consisting of a horizontal stroke found rarely in PEDT VII-23, 26 occurs commonly now in the Bhattiprolu,[3(a)] Nanaghat,[3(b)] Hathigumpha[3(c)] Bharhut Stūpa Toraṇa inscriptions.[3(d)] The new sign - ⊔ (gho) which appears in the Mathura votive tablet[4] consists of two slanting strokes in opposite directions. Generally the sign for this medial is seen at the top of the consonants. However, it is noticeable that in <u>mo</u> - ⊘ and <u>to</u> - ⊖ - the strokes are joined in the middle, one to the right side and the other to the left side of the latter in the Nanaghat inscription.[5] The Nanaghat

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1. <u>J.B.O.R.S.</u>, III, pl. facing p. 472, l.5.
2. D.C. Sircar, <u>Select Inscriptions</u>, pl. facing p. 186, l.1.

3(a) <u>E.I.</u>, II, pl. between pp. 328-29, l.6 (go).

3(b) D.C. Sircar, <u>Select Inscriptions</u>, pl. facing p. 186, l.8 (yo).

3(c) <u>J.B.O.R.S.</u>, III, pl. facing p. 472, l.2 (to).

3(d) <u>I.A.</u>, XIV, pl. on p. 139, l.3 (to).

4. <u>E.I.</u>, II, pl. facing p. 200, no. ii, l.3.
5. D.C. Sircar, <u>Select Inscriptions</u>, pl. facing p. 186, l.1, pt. II, l.1 (to).

inscription[1] presents a peculiar type, where a straight horizontal bar is placed a little apart from the top as in <u>tho</u> - ō .

<u>au</u> The form of the <u>medial au</u> as it appears in the Bharhut stūpa inscription[2] consists of one slanting bar placed at the top, with a slightly curved cross bar placed below this, at a little distance - ौ (pau).

<u>Anusvāra</u> The anusvāra is shown sometimes to the right of the consonant to which it is attached - तं (taṁ) as in the Ayodhya stone inscription of Dhana /dev<u>a</u>/[3] and sometimes above the letter - घं (ghaṁ) as in the Mathura votive tablet of the time of Śoḍāsha.[4]

<u>Visarga</u> The sign for a <u>visarga</u> - नः (naḥ) - is seen for the first time in the Ayodhya inscription of Dhana /dev<u>a</u>/[5] consisting of two dots placed one above the other as we have it to-day.

<u>Conjuncts</u> The old ambiguous way of showing the superscript and subscript <u>r</u> by the common device of an indenture in the vertical part of the other letter has disappeared and independent signs for both of them have been developed in the post-Mauryan period. The exception

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1. Ibid., pt. II, l.1.
2. <u>I.A.</u>, XIV, pl. on p. 139, l.2.
3. D.C. Sircar, <u>Select Inscriptions</u>, pl. facing p. 96, l.2.
4. <u>E.I.</u>, II, pl. facing p. 200, no. ii, l.3.
5. D.C. Sircar, <u>Select Inscriptions</u>, pl. facing p. 96, l.1.

is Yaśamitā's brick tablet[1] where superscript r is inserted in the vertical part of ya, thus - ⊥ (rya). The superscript r is shown by a vertical stroke at the top of the consonant - ⊾ (rsha) - as in the Ghosundi stone inscription.[2] The subscript r is attached at the foot of the consonant and is expressed either by a corkscrew form - ⊰ (trā) as in the Besnagar[3] or by a vertical line turning leftwards at the lower end - ⊻ (pra) as in the Hathigumpha inscription.[4] The subscript ya is indicated by its full form below the first letter, thus - ⊻ (sya) as in the Ayodhya inscription of Dhana ⌈deva⌋[5].

Thus we find that in the post-Mauryan Brāhmī, there is some change in the forms of the consonants kha, gha, na, ña, ta, pa, pha, ma, la, śa, sa, the medials ā, u, e, o and a marked development in case of cha, da, bha, ya, va, sha, ha, superscript and subscript r, the medial i and ī as compared to the corresponding Mauryan forms. Three new signs i.e. for initial ai, visarga and medial au appear for the first time in this period.

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1. J.R.A.S., 1912, pl. facing p. 120.
2. E.I., XVI, pl. facing p. 25, l.2.
3. J.R.A.S., 1909, pl. facing p. 1054, l.6.
4. J.B.O.R.S., III, pl. facing p. 472, l.10.
5. D.C. Sircar, Select Inscriptions, pl. facing p. 96, l.1.

CHAPTER 6

KUSHĀṆA AND POST KUSHĀṆA SCRIPT

The Kushāṇa Brāhmī

The Kushāṇa period is quite rich for the study of Indian Epigraphy. It offers a large number of dated inscriptions, many of which name the reigning king. The dates which range from 3 to 99 are usually referred to Śaka era of 77-78 A.D. Most of the Kushāṇa inscriptions have been discovered from Mathura and its surrounding region. A few of them come from Eastern India and Central India. Moreover, a number of inscriptions found from Bandhogarh and Kosam belong to the Kushāṇa period. They are dated in an unspecified era which is in all probability the Śaka era and the palaeography of the records supports this identification.

The Kushāṇa alphabet presents the usual phenomenon of the simultaneous occurrence of the advanced forms side by side with the older ones. Some of the letters have assumed shapes which become common in the Gupta period e.g. sa in the Mathura inscriptions of Kaṇishka of the year 4[1(a)] and 54.[1(b)]

1(a) E.I., XXXIV, pl. facing p. 10, no. i, l.2.

1(b) E.I., XIX, pl. facing p. 97, l.i; E.I.,XXVI,p.293.

A Side by side with the old forms, a new type of a is met with in certain inscriptions of this period, for example in the Mathura inscriptions of the year 4,[1(a)] 35,[1(b)] 50[1(c)] (?), the downward left-hand stroke is provided with a curve at the end - 𑀅.

Ā The sign of ā has three new types. In one of these - 𑀆 - which is commonly met with, the bar denoting the lengthening is attached below the point where left limbs meet the vertical as in the Girdharpur inscription of the year 28,[2(a)] Mathura inscription of the Yrs. 28[2(b)] 54,[2(c)] 60,[2(d)] and in the Kosam inscription of Bhadramagha of the year 81,[2(e)] Bandhogarh inscriptions Nos. v and vi of the years 86[2(f)] and 88.[2(g)] Occasionally the bar starts from the point of junction and bends downwards thus - 𑀆 - in the Mathura inscription of the

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1(a) E.I., XXXIV, pl. facing p. 10, no. i, l.1.

1(b) E.I., I, no. vii of reverse of plate facing p. 389, pt. A.

1(c) E.I., II, pl. facing p. 209, no. xxxvi, l.3.

2(a) J.B.O.R.S., XVIII, pl. facing p. 6, l.6.

2(b) D.C. Sircar, Select Inscriptions (1st Ed.), pl. facing p. 146, l.6.

2(c) E.I., I, no. xxi of reverse of pl. facing p. 389, l.6.

2(d) E.I., I, no. viii of reverse of pl. facing p. 389, l.1 of pt. B.

2(e) E.I., XXIV, pl. facing p. 256, l.2.

2(f) E.I., XXXI, pl. facing p. 180, no. vi, l.2.

2(g) Ibid., no. vii, l.3.

year 50,[1] as in the Kshatrapa and Sātavāhan records. A more advanced type - ꬹ - appears in the Mathura inscription of the year 4, where the lengthening is indicated by a curve at the bottom.[2]

I The initial i is represented in three ways, two of which are old. The new sign - ꬹ - consists of two horizontal parallel bars with a vertical stroke placed to the right. It appears in the Mathura inscription of the year 85.[3]

Ī The sign of initial long ī - ꬹ - consists of a vertical with the top mark and one small dash placed on either side of the vertical, as in the Mathura inscription of the year 79.[4]

U The form of initial u is of two varieties, of which one is new where the horizontal bar at the bottom curves downwards - ꬹ - as in the Mathura inscriptions of the year 12[5(a)] and 25.[5(b)]

Ū Initial long ū does not occur in the inscriptions known so far.

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1. E.I., II, pl. facing p. 204, no. xvii, l.2.
2. E.I., XXXIV, pl. facing p. 10, no. i, l.2.
3. E.I., I, no. xxii of pls. between p. 392-93, l.1.
4. E.I., II, pl. facing p. 205, no. xx, l.1 of pt. B.
5(a) E.I., X, pl. I, No. iv, l.1.
5(b) E.I., I, pls. between pp. 392-93, no. v, l.1, of pt. B.

E A variant type of e - ◻ - with the base of the triangle at the top appears in the Mathura inscriptions of the years 7,[1(a)] 71,[1(b)] 80[1(c)] and in the Kosam inscription of Bhadramagha of the year 81.[1(d)]

Ai The vowel ai is not found.

O The shape of o remains unchanged.

Au Shape of initial au doesnot occur.

Ka Side by side with the old form with the straight cross-bar, a new type of ka - ☨ - is seen frequently where it is replaced by a curved stroke, as in the Mathura inscription of the year 4.[2]

Kha Besides the older forms, there appears a kha with a prominent triangular base, as in the Mathura inscriptions of the years 25,[3(a)] 29[3(b)] 28,[3(c)] Girdharpur inscription of year 28[3(d)] and Sanchi inscription of the year 78.[3(e)]

1(a) E.I., I, pl. between pp. 392-93, no. xix, l.1.

1(b) E.I., X, pl. I, no. viii, l.2.

1(c) E.I., I, pls. between pp. 392-93, no. xxiv, l.1.

1(d) E.I., XXIV, pl. facing p. 256, l.2.

2. E.I., XXXIV, pl. facing p. 10, no. i, l.1.

3(a) E.I., I, no. v of reverse of pl. facing p. 389, l.1 of pt. B.

3(b) Ibid., no. vi of reverse of pl. facing p. 389, pt. A.

3(c) D.C. Sircar, Select Inscriptions, 1st Ed., pl. facing p. 146, l.2.

3(d) J.B.O.R.S., XVIII, pl. facing p. 6, l.2.

3(e) E.I., II, pl. between pp. 368-69, l.2.

Ga The letter ga is of three varieties. In the first, the left down stroke bears a solid triangular mark -ก- or a short bar at its end -ก- as in the Mathura inscription of the year 8;[1(a)] and the Set-Mahet inscription[1(b)] respectively. In a more advanced form -ก-, which occurs in Mathura inscription of the year 52[2] the right hand vertical is elongated. Absolutely flat-topped ga appears in the Mathura inscription of the year 99.[3]

Gha The form of gha with verticals of equal height is used invariably in this period.

Na The sign of ña is seen for the first time in this period. It is represented by a vertical line with two short horizontal bars appended to its ends to the right -ฦ (ṅga) - as in the Mathura inscription of the year 15.[4] A cursive form of the letter with a bend in the vertical and the top-mark -ฦ (ṅga)- merging into the upper horizontal bar appears in the Kosam inscription of the year 86.[5]

Cha Cha has two types, both of which have been seen in the preceding period. However, the developed type of triangular shape with its sides curved becomes frequent now.

1(a) E.I., XVII, pl. facing p. 11, l.2.
1(b) E.I., VIII, pl. facing p. 181, l.2.
2. E.I., II, pl. I, no. xviii, l.3.
3. E.I., X, pl. I, no. xi, l.1.
4. E.I., I, pl. facing p.388,no.ii, l.1 of pt. C.
5. E.I., XVIII, pl. facing p. 160, no. iii, l.3.

Chha Chha appears in two types as in the preceding period.

Já Side by side with the old forms, a new form of ja is developed. In the new type - ६ - which occurs in the Mathura inscription of Kaniṣka of the year 54,[1] the bottom bar curves slightly downwards.

Jha The letter jha occurs rarely and retains its old form.

Ña Ña is expressed in two ways, one of which is new. In the new type the right-hand vertical is shortened, as in the Mathura inscription of the year 48.[2]

Ṭa, Ṭha The shapes of ṭa and ṭha remain unchanged.

Ḍa The form of ḍa as it appears in the Mathura inscription of the time of Śoḍāsha becomes frequent now. Occasionally the angular central bend is replaced by a round shape - ९ - as in the Mathura inscription of the year ९०.[3]

Ḍha There is no change in ḍha.

Ṇa Ṇa is represented in six ways. Three of them are old and three are new. One of the new types - ४ - is a characteristic of the Mathura region and is met with in the Mathura inscription of the year 33,[4] and is formed by two short curves placed back to back, looking like

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1. E.I., XIX, pl. facing p. 97, l.1., E.I., XXVI, p.253.
2. E.I., X, pl. I, no. v, l.2.
3. E.I., X, pl. between pp. 106-107, no. iii, l.1.
4. I.A., VI, pl. facing p. 218, no. ii, l.2.

the letter x of the Roman alphabet. The second type - - appearing side by side with the old form, occurs, in the Mathura inscription of the year 84,[1(a)] and the Chargaon Nāga image inscription.[1(b)] In Allahabad inscriptions of year 87[1(c)] it is used exclusively. Occasionally a loop is developed at the left side of the bottom thus - - as in Mathura inscription of the year 22 (?).[2]

Ta A new type of ta - - having the right hand stroke longer than the left appears in the Mathura inscription of the year 92[3(a)] and in the Kosam inscriptions of the year 107.[3(b)]

Tha Two types of tha are seen in this period. In the new type - - (thi) - which is seen in the Mathura inscription of the year 12,[4] the dot is replaced by a horizontal stroke dividing the ellipse in two halves.

Da Side by side with the double curved form as seen in the Mathura votive tablet of the time of Śoḍāsha, single

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1(a) E.I., XIX, pl. facing p. 66, no. iv, 1.3.
1(b) A.S.I., An. Rep. 1908-09, pl. LVIa, 1.3.
1(c) Jha Commemoration volume, pls. facing pp. 110 & 112, 11.5, 4, respectively.
2. E.I., I pls. between pp. 292-93, no. xx, 1.1.
3(a) E.I., XXXIV, pl. facing p. 10, no. ii, 1.3.
3(b) E.I., XXIV, pl. facing p. 147, 1.10.
4. E.I., X, pl. between pp. 106-107, no. iv, 1.4.

curved shape of da open to right - ट , ट - is developed. It can be seen as in the Mathura inscriptions of the years 4,[1(a)] and 15[1(b)] respectively.

Dha Dha does not undergo any appreciable change.

Na Side by side with the old forms a new shape of na is seen in the Mathura inscription of the year 93[2(a)] and the Kosam inscription of year 107,[2(b)] where a loop is developed at the bottom, on the left side of the vertical thus - ऩ (ndi), न .

Pa, Pha Only the advanced types of pa and pha of the preceding period are now retained.

Ba Ba remains unchanged.

Bha Besides the common occurrence of the type seen in the Mathura votive tablet of the time of Śoḍāsha, we find two new forms of bha. The first of these is distinguished by its indented left hand part and the curved right hand vertical - भ -, as can be seen in the Sarnath inscription of the year 3.[3] A more advanced type - भ - is also met with where the right limb is a straight vertical and the left consists of an angular appendage, instead of a curve. This becomes the normal type in the

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1(a) E.I., XXXIV, pl. facing p. 10, no. i, l.2.
1(b) E.I., I, pl. facing p. 388, no. ii, l.2.
2(a) E.I., II, pl. facing p. 205, no. xxiii, pt. B.
2(b) E.I., XXIV, pl. facing p. 147, l.7.
3. E.I., VIII, pl. facing p. 176, l.2.

Gupta period and appears in the Mathura inscriptions of the years 54,[1(a)] and 92.[1(b)]

Ma Two new types of ma are met with. The first - 𑀫 - is represented by a square, open at the top with its base elongated a little to the left. In the Mathura inscription of the year 4[2(a)] it occurs alongwith the older form and in the Mathura inscription of the year 54,[2(b)] it is used exclusively. This form seems to be evolved from the old triangular bottomed one, the intermediate one being - 𑀭 - appearing in the Allahabad Museum inscriptions of Mahārāja Bhadramagha of the year 87.[3]

Ya Ya has two varieties one of which has already been seen in the preceding period. In the new variety - 𑀬 - the hook is closed and assumes an oval shape, as in the Mathura inscription of the year 4.[4]

Ra Ra is indicated in two ways. The hooked one is quite common and is even seen in the Sarnath pillar inscription of the time of Aśvaghosha of the year 40.[5]

La Side by side with the old forms of la, a developed

1(a) E.I., I, no. xxi of reverse of pl. facing p.389,l.3.
1(b) E.I., XXXIV, pl. facing p. 10, no. ii, l.2.
2(a) Ibid., no. i, l.1.
2(b) E.I., XIX, pl. facing p. 97, l.1, E.I., XXVI, p.293.
3. Jha commemoration volume, pls. facing pp. 110-112, l.1.
4. E.I., II, pls. between pp. 200-201, no.xi, pt. B.
5. E.I., VIII, pl. facing p. 176, no. i, ii.

form - ꣿ - appears in the Mathura inscription of year 54,[1(a)] Bandhogarh inscriptions No. vii and ix of Poṭhaśiri,[1(b)] Kosam inscription of Śivamagha[1(c)] and of year 107[1(d)] two Allahabad Museum inscriptions of year 87.[1(e)]

Va Two types of va are met with, one of which is new. It consists of a circle below the top mark thus - ꣾ - instead of the triangle. It occurs in the Mathura inscription of the year 57,[2(a)] Bandhogarh inscription[2(b)] of the year 86, 88, and the Kosam inscriptions of the year 107.[2(c)]

Śa The letter śa presents a number of distinct forms. Side by side with the old form - ꣽ -, new forms - ꣼ , ꣼ , ꣼ , ꣼ - appear in the Mathura inscriptions of the years 7,[3] 31,[4] 4,[5] and 87.[6]

1(a) E.I., XIX, pl. facing p. 97, l.2; E.I., XXVI, p.293.

1(b) E.I., XXXI, pl. facing p. 181, no. viii-l.1; Ibid, no. x, l.2.

1(c) E.I., XVIII, pl. facing p. 160, no. ii, l.3.

1(d) E.I., XXIV, pl. facing p. 147, l.13.

1(e) Jha Commemoration volume, pls. facing pp. 110 & 112, l.4.

2(a) I.A., VI, pl. facing p. 218, no. v.

2(b) E.I., XXXI, pl. facing p. 180, no. vi-l.1, no. vii-l.1.

2(c) E.I., XXIV, pl. facing p. 147, l.2.

3. E.I., I, no. xix, of reverse of pl. facing p. 392, l.2.

4. E.I., II, pls. between pp. 200-201, no. xv, l.1 of pt. B.

5. Ibid., no. xi, pt. B.

6. E.I., I, pl. facing. p. 392, no. xiii, l.2.

Sha Side by side with the old form of sha, two new forms are seen. One of them is distinguished by its central stroke stretching to the right vertical as in the Mathura inscription of the year 18.[1] Sometimes a slight bend is introduced in the left vertical, thus - ष , as in the Mathura inscription of the year 52.[2] In the other form the central stroke becomes oblique thus - ष (sho) which can be seen in the Mathura inscriptions of the year 15,[3(a)] and 25.[3(b)]

Sa Side by side with the old form, a new shape of sa has been developed. In this new type - स -, the left hook has been turned into a loop. It appears alongwith other form in the Mathura inscriptions of the year 54,[4(a)] 33,[4(b)] 93,[4(c)] and exclusively in the Mathura inscription of the year 16.[4(d)]

Ha Ha appears in three varieties. One of them is new - ह (hā) where the right limb is bent down in a curve turning leftwards, as in the Mathura inscription of the

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1. E.I., II, pls. between pp.200-201, no. xiv, pt. A.
2. E.I., II, pls. between pp. 368-69, no. xviii, l.3.
3(a) E.I., I, pl. facing p. 388, no. ii, l.2 of pt. B.
3(b) E.I., I, no. v of reverse of pl. facing p. 389, l.1 of pt. B.
4(a) E.I., XIX, pl. facing p. 97, l.1; E.I., XXVI, p.293.
4(b) I.A., VI, pl. facing p. 218, no. ii, l.1.
4(c) E.I., II, pl. facing p. 205, no. xxiii, pt. A.
4(d) J.A.S.B., 1948 (Third Series) pl. facing p.120, l.3.

year 54,[1(a)] Kosam inscriptions of the Maghas[1(b)] and the Bandhogarh inscriptions Nos. vii-ix of the year 86.[1(c)]

ā As in the preceding period, the medial ā is either indicated by a horizontal stroke - ‡ (kā) or by an oblique stroke at the top of the letter, ‹r (hā). It occurs in the Mathura and Kosam inscriptions, as well as in the Bandhogarh inscriptions occasionally. In nā - ‰ - of Mathura inscription of the year 5,[2] and thā - ‹ - of Mathura inscription of the year 84,[3], it is seen at the top contrary to the previous practice of attaching it in the middle. In j - ‰ (jā) -, the sign is joined to the central stroke and rises vertically upwards as in the Mathura inscription of the year 54.[4]

i The medial i appears in two shapes which have already been seen in the preceding period. However, the semi-circular sign has become frequent now.

ī Side by side with the old shape of medial ī, a new development is the extention of the left hand limb towards

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1(a) E.I., XIX, pl.facing p. 97,l.2; E.I., XXVI, p.293.

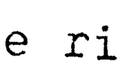
1(b) E.I., XXIV,pl. facing p.256,l.1;Ibid., pl.facing p.147,l.12;E.I.,XVIII,pl.facing p.160;no.iii,l.1.

1(c) E.I., XXXI, pl. facing p. 181, nos. viii-x, l.1.

2. E.I., I, pls. between pp. 200-201,no.i,l.1 of pt.A.

3. E.I., XIX, pl. facing p. 66, no. iv, l.2.

4. E.I., XIX, pl. facing p. 97, l.2; E.I., XXVI, p.293.

the right -  (thī) - as in the Mathura inscription of the year 52.[1]

u Two new forms of medial u are met with. One is like the present Nāgarī form and the other is a hook which is attached on the right side of the letter at the bottom. The former is exemplified by the Mathura inscription of the year 9,[2] thus -  . The latter can be seen in gu -  , tu -  , śu - of the Mathura inscriptions of the year 28.[3]

ū Besides the old signs of medial ū, a new sign consisting of a vertical with a hook to its left -  (pū) - appears frequently as in Mathura inscriptions of the year 22.[4]

e The sign of medial e is denoted by a horizontal or oblique stroke as in the preceding period.

ai The new sign of medial ai is indicated by two parallel oblique lines rising upwards to the left side of the consonant -  (vai) - as in Mathura inscription of the year 54.[5]

o The new sign of medial o -  (to) - consists of two small curves instead of oblique strokes in opposite

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1. E.I., II, pls. between pp. 368-69, no. xviii, l.1.
2. E.I., X, pl. between pp. 106-107, no. iii, l.3.
3. D.C. Sircar, Select Inscriptions, pl. facing p. 146, ll.1, 3, 4.
4. E.I., XIX, pl. facing p. 66, no. i, l.1.
5. E.I., I, no. xxi of reverse of pl.facing p.389,l.3.

directions rising from the same point in the top-mark, as in the Mathura inscription of the year 4.[1]

au Medial au is formed by an additional stroke, vertical or oblique, placed in between the two s trokes of o thus - (pau), (kau) - as in the Bandhogarh inscription of the year 88,[2] and Mathura inscription of the year 9[3] respectively.

ri The sign for the medial ri is indicated in three ways. One form is just a slanting line attached at the bottom, thus - (gri) - as is seen in the Mathura inscription of the year 74.[4] In the second variety - (gri) - occurring in the Mathura inscription of the year 52,[5] the stroke is curved instead of being straight as in the first type. In the third variety which appears in the Mathura inscription of the year 54,[6] it takes the form of a curve turning to the right - (gri) - and looks just like the modern Nāgarī ri.

Visarga The sign for visarga remains unchanged.

Conjuncts Generally the letter in conjuncts preserve their full form but sometimes cursive forms of subscript characters are developed. The subscript ña - (jña) -

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1. E.I., II, pls. between pp. 200-201, no.xi, pt. A.
2. E.I., XXXI, pl. facing p. 180, no. vii, l.2.
3. E.I., X, pls. between pp. 106-107, no. iii, l.2.
4. Ibid., no. ix, pt. A, l.1.
5. E.I., II,pls.between pp.368-69,no. xviii, l.2.
6. E.I., I, no. xxi of reverse of pl. facing p.389,l.3.

as it appears in the Kosam inscription of Vaiśravaṇa of the year 107[1] is highly cursive where the central vertical of the letter is eliminated. As regards subscript ya, it is indicated in two ways; sometimes by full form of the letter - ्य - as in the Sarnath inscription of the year 3.[2] More frequently, by a curve as in the Mathura inscription of the year 4[3] - ्य (sya). The view of C. Sivaramamurti[4] that 'tripartite subscript ya becomes bipartite in later Kushāṇascript does not hold good here since it is met with in the earlier Kushāṇa inscriptions as in the Mathura inscription of the year 4. The looped form - ्य (ryya) - occurring in Mathura inscription[5] of the year 85 (?) is nothing but the tripartite form where left hook has been formed by the continuation of the central stroke towards the left and the right hand vertical by turning it backwards. The superscript r is shown by a short vertical stroke above the letter without the top mark - र्व (rva) - as in the Sarnath inscription of the year 3,[6] or with a top mark - र्म (rma) - as in the Sanchi inscription of the year 78.[7]

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1. E.I., XXIV, pl. facing p. 147, l.13.
2. E.I., VIII, pl. facing p. 176, l.1.
3. E.I., XXXIV, pl. facing p. 10, no. i, l.1.
4. Indian Epigraphy and South Indian Scripts, p.158.
5. E.I., I,no.xxii of reverse of pl.facing p.389,l.1.
6. E.I., VIII, pl. facing p. 176, l.2.
7. E.I., II, pl. between pp. 368-369, l.3.

The <u>subscript ra</u> is commonly made up by a vertical line turning to the left - ꠣ (pra) - as in the Mathura inscription of the year 4.[1] Sometimes this curve becomes deep - ꠢ (tra) - as in the Mathura inscription of the year 50.[2]

<u>Characteristics</u>

1. Most of the characters in the Kushāṇa alphabet are square and squat.

2. A marked change is observable in the initial <u>a</u>, <u>ā</u>, <u>u</u>, <u>e</u> and in consonants <u>ka</u>, <u>kha</u>, <u>ga</u>, <u>ja</u>, <u>ṇa</u>, <u>ña</u>, <u>ta</u>, <u>tha</u>, <u>da</u>, <u>dha</u>, <u>na</u>, <u>bha</u>, <u>ma</u>, <u>la</u>, <u>va</u>, <u>śa</u>, <u>sha</u>, <u>sa</u>, <u>ha</u>, <u>medial ri</u> and <u>u</u>.

3. Signs for initial long <u>ī</u> and <u>ṅa</u> appear for the first time.

4. The southern roundish <u>ḍa</u> is seen occasionally.

5. Small top-strokes take the place of thick-heads in some inscriptions as in the Mathura inscription of the year 54.

6. The so-called eastern forms of <u>la</u>, <u>sa</u>, <u>ha</u> are generally met with in the Kosam inscriptions and occasionally in the Mathura inscriptions.

The transition from the Kushāṇa to Gupta characters can be seen in the following inscriptions:

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1. <u>E.I.</u>, XXXIV, pl. facing p. 10, no. i, l.2.
2. <u>I.A.</u>, VI, pl. facing p. 219, no. xi.

1. Kanakheda (Sanchi) inscription of Swāmi Jīwadāman, year 13,[1] (201 A.D.?)

2. Kosam inscription of Mahārāja Bhīmavarman year 130[2] = 208 A.D.

3. Kosam inscription of Maharaja Bhīmavarman. Year 139[3] = 217 A.D.

4. Nandsa Yūpa inscriptions of Vikrama Era 282[4] = 225 A.D.

5. Yūpa inscription from Barnala Krita Year 284[5] = 227 A.D.

6 to 8. Three Maukhari inscriptions on Yūpas from Badva. Krita Year 295[6] = 238 A.D.

9. Fourth Maukhari Yūpa inscription from Badva.[7]

10. Yūpa inscription from Barnala Krita year 335[8] = 278 A.D.

The above inscriptions except Nandsa Yūpa inscription display the same form of characters as the Kushāṇa inscriptions. However, in the Barnala inscription of Krita

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1. E.I., XVI, pl. facing p. 232.
2. Indian Culture, III, pl. facing p. 177, no. i.
3. C.I.I., III, pl. xxxix (c).
4. E.I., XXVII, pl. between pp. 264-65.
5. E.I., XXVI, pl. facing p. 120.
6. E.I., XXIII, pl. facing p. 52.
7. E.I., XXIV, pl. facing p. 253.
8. E.I., XXVI, pl. facing p. 120.

year 284,[1] an advanced form of <u>medial i</u> - ि (si) - is seen where the sign hangs down to the bottom as in Nāgarī.

The Nandsa inscription[2] shows the characteristics of the Kshatrapa alphabet. Firstly, the verticals of the letters <u>ka</u> - क , <u>ña</u> - ञ (jña), <u>ra</u> - र , are curved to left at the lower end. Secondly, the letters <u>gha</u> - घ , <u>pa</u> - प , <u>ba</u> - ब , and <u>sha</u> - ष have an indent in their left limb. The peculiar sign of medial <u>au</u> in <u>mau</u> - ौं - consists of two dashes one to the left, other to the right of m, the latter curving upwards to the right. The upper part of <u>la</u> - ल - has developed a curved ornamental tail. The looped <u>ṇa</u> and broad, notched <u>bha</u> are met with. The sign for Upadhmānīya - ◌ᲂ - made up by a circle having three converging strokes in it, occurs. The final <u>ṃ</u> is represented by a smaller form of <u>ṃ</u> in size under a horizontal stroke, thus - ◌ं (ṃ).

These inscriptions, however, small in number add two more signs to the alphabet i.e., the sign of Upadhmānīya and <u>final ṃ</u>. They also present the advanced form of <u>medial i</u>.

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1. <u>E.I.</u>, XXVI, pl. facing p. 120, pt. A.
2. <u>E.I.</u>, XXVII, pl. between pp. 264-65.

CHAPTER 7

THE GUPTA SCRIPT

The script of northern India as it appears in the inscriptions of the Gupta emperors and of their contemporaries is generally called the Gupta script. It is marked with certain developments, though sometimes it cannot be distinguished from the Kushāṇa script. The Mathura pillar inscription of Chandragupta II of the year 61[1] presents exactly the same form of letters as those seen in the Kushāṇa inscriptions.

The detailed develcpment of the various letters is described below:-

A Side by side with the old forms, an advanced shape of a is met with. In this new form, the curve at the lower end of the left limb becomes more prominent thus - अ - as in the Sohawal copper plates of Śarvanātha.[2]

Ā The stroke denoting the lengthening of ā is mostly attached in two ways. In the northern inscriptions such as in the Mathura pillar inscription of Chandragupta

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1. E.I., XXI, pl. facing p. 8.
2. E.I., XIX, plbetween pp. 130-31, l.9.

of the year 61,[1] it is like the medial u of Nāgarī and is attached at the bottom. The letter looks as - 𑀉 . In the Southern variety - 𑀉 - it is a downward curve appended a little above the bottom of the letter as in the Udayagiri cave inscription of the year 82.[2]

I The initial i displays two new forms. One of these consists of two dots one above the other with a vertical bar to the right thus - 𑀇 - as in the Allahabad inscription of Samudragupta,[3(a)] Udayagiri cave inscription of Vīrasena,[3(b)] Kalaikuri copper plate of the year 120,[3(c)] and Baigram copper plate of the year 128.[3(d)] Later on, the top-mark appears on the vertical - 𑀇 - as in the Bihar pillar inscription[4(a)] of Skandagupta and Bhumara pillar inscription of Mahārāja Hastin and Śarvanātha.[4(b)] The other form is denoted by two dots in a horizontal line and a curved stroke placed above them - 𑀈 - as seen in the Tumain Fragmentary inscription of Kumāragupta of the Gupta year 116.[5] The old form consisting of three dots or small circles also survives.

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1. E.I., XXI, pl. facing p. 8, l.8.
2. C.I.I., III, pl. ii, B, l.1.
3(a) C.I.I., III, pl. i, l.30.
3(b) Ibid., pl. iv, A, l.4.
3(c) I.H.Q., XIX, pl. facing p. 21, l.3.
3(d) E.I., XXI, pl. between pp. 80-81, l.4.
4(a) C.I.I., III, pt. vi, B, l.4.
4(b) Ibid., pl. xv, A, l.4.
5. E.I., XXVI, pl. facing p. 117, l.5.

I The initial long ī - ঈ - in the Southern variety which occurs in the Sanchi inscription of the year 93,[1] has an additional hook at the bottom.

U Two new types of initial u are met with. In one of these - ऌ - the lower horizontal bar of the previous period is now changed into a curve, the letter still facing right, as in the Allahabad pillar inscription of Samudragupta,[2(a)] Sanchi inscription of Chandragupta II,[2(b)] Udayagiri cave inscription of the year 106[2(c)] and Sanchi inscription of the year 131.[2(d)] In the other - ऽ - curve is open to the left as in the Bhitari pillar inscription,[3(a)] Baigram,[3(b)] Kalaikuri[3(c)] and Sohawal[3(d)] copper plates.

Ū Sign for initial long ū is not met with.

E Initial e is denoted in two ways. The triangular form of the letter has its apex sometimes upwards and sometimes downwards.

Ai Sign for ai does not occur so far.

O The new form of initial o - ओ - where bottom bar curves down to the left appears in the Karitalai copper

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1. C.I.I., III, pl. iii, B, l.6.
2(a) Ibid., pl. i, l.13.
2(b) Ibid., pl. iii, B, l.5.
2(c) Ibid., pl. xxxviii, A, l.7.
2(d) Ibid., pl. xxxviii, B, l.1.
3(a) Ibid., pl. vii, l.19.
3(b) E.I., XXI, pl. between pp. 80-81, l.13.
3(c) I.H.Q., XIX, pl. facing p. 21, l.4.
3(d) E.I., XIX, pl. between pp. 130-31, l.10.

plate inscription of the year 174.[1]

Au Initial au - औ - is seen for the first time in the Majhagawan inscription of the year 191.[2]

Ka The advanced form of ka of the Kushāṇa period with a curve for the cross-bar continues. A new development is the addition of a curve at the bottom to the left - ज - , which is a characteristic of the Southern variety of the letter. It can be seen in the Sanchi inscription of Chandragupta of the year 93.[3]

Kha Side by side with the old form a new form of kha is met with where a little bar appears at the end of the hook - ख - as in the Khoh plates of Mahārāja Hastin.[4]

Ga Ga does not show any appreciable change though the advanced form of the previous period becomes common now.

Gha A new shape of gha - ॻ - having an inward bend in the left stroke and notched bottom is developed in the Central Indian variety as exemplified by the Eran stone inscription of Samudragupta.[5]

Na Side by side with the straight backed ṇa, a new variety of the letter with a notched back - ङ (ṅgṛi) is met with as in the Eran stone inscription of Samudragupta.[6]

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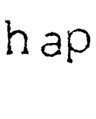
1. C.I.I., III, pl. xvi, l.1.
2. Ibid., pl. xiv, l.8.
3. Ibid., pl. iii, B, l.4.
4. Ibid., pl. xiii, l.13.
5. Ibid., pl. ii, A, l.8.
6. Ibid., l.19.

Cha, Chha Cha and Chha remain unchanged.

Ja, Jha Ja and jha retain old shapes.

Ña In the new shape of ña -  (jño) - hook is developed at the bottom to the left which is a characteristic of the Southern variety as in the Sanchi inscription of Chandragupta of the year 93.[1]

Ṭa Besides the old semi-circular form of ṭa, it appears frequently with flattened top - ट - as in the Allahabad stone inscription of Samudragupta.[2]

Ṭha The form of ṭha remains unchanged.

Ḍa Side by side with the old form, broad-backed ḍa - ड (ḍā) - is seen in the Junagadh Rock inscription of Skandagupta.[3]

Ḍha The form of ḍha remains unchanged except in Box-headed variety where the body of the letter becomes broader thus - ढ - as in the Udayagiri cave inscription of Chandragupta II of the year 82.[4]

Ṇa The old open-mouthed form of ṇa is further developed. In the left hand side a loop is formed at the bottom, thus - ण - as in the Allahabad pillar inscription[5] of Samundragupta.

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1. C.I.I., III, pl. iii, B, l.1.
2. Ibid., pl. i, l.6.
3. Ibid., pl. viii, l.3.
4. Ibid., pl. ii, B, l.1.
5. Ibid., pl. i, l.14.

Ta Both the old forms of ta are preserved.

Tha Side by side with the old forms, two new shapes of tha are met with. In one of these the oval formation with the cross-bar becomes flattened on the right - ϑ - as in the Sohawal copper plate.[1] In the other type- ϐ -, a notch has been developed in the left hand side curve as in the Kalaikuri copper plate[2(a)] and Supia pillar inscription.[2(b)]

Da Besides the round old form of da, it becomes angular -ɗ (dā) - in the Central Indian variety as in the Udayagiri inscription[3] of Chandragupta II of the year 82.

Dha Dha is of two types. In the new type the letter becomes narrower at the bottom - ϙ - as in the Udayagiri cave inscription of the year 106.[4]

Na The advanced form of na with a loop occasionally met with in the Kushāṇa period now becomes common. The usual type of the Kushāṇa period without the loop is also used as in the Udayagiri cave inscription of the year 106,[5(a)] and the Indore copper plate of Skandagupta of the year 146.[5(b)]

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1. E.I., XIX, pl. between pp. 130-31, l.17.
2(a) I.H.Q., XIX, pl. facing p. 21, l.7.
2(b) E.I., XXXIII, pl. facing p. 307, l.13.
3. C.I.I., III, pl. ii, B, l.1.
4. Ibid., pl. xxxviii, A, l.6.
5(a) Ibid., pl. xxxviii, A, l.1.
5(b) Ibid., pl. ix, B, l.1.

Pa The old form of pa is preserved in the Northern inscriptions while a new shape with a inward bend in the left vertical - ꣆ - is developed in the Southern variety. It can be seen in the Eran stone inscription of Samundragupta.[1]

Pha An advanced type of pha is usually met with where hook on the right is closed - 𑀥 (phu) - as in the Allahabad pillar inscription of Samudragupta.[2]

Ba A new type of ba notched on the left side is evolved in the Southern variety as exemplified in the Eran inscription of Samudragupta.[3] In the northern inscriptions, older form continues.

Bha Side by side with the old forms, bha presents a new shape in which the angular appendage on the left becomes a solid wedge - 𑀪 - as in the Eran posthumous pillar inscription[4] of Goparāja. The intermediate form seems to be the one where angular appendage on the left is made a triangle - 𑀪 - as in the Sarnath Buddhist stone inscription of Kumāragupta of the year 154.[5]

Ma Ma is of three types. One of these with triangular base and the other made of a open square have already been noticed in the Kushāṇa period. The latter becomes

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1. C.I.I., III, pl. ii, A, l.9.
2. Ibid., pl. i, l.12.
3. Ibid., pl. ii, A, l.19.
4. Ibid., pl. xii, B, l.4.
5. A.S.I., An Rep. 1914-15, pl. lxix. n., l.2.

frequent now. The third type -ऱ - is a characteristic of the Central Indian variety and is distinguished by its rectangular lower part. It can be seen in the Udayagiri cave inscription of Chandragupta II of the year 82.[1]

Ya During the fourth and fifth centuries, the tripartite ya with a curve to the left continues. The earliest instance of bipartite ya -ल - occurs in the Majhagawan copper place[2] of the year 191 (=510 A.D.) and then also side by side with the tripartite.

Ra Side by side with the old forms consisting of straight vertical line and hooked vertical line a new form of ra is met with. In this form, the lower end of the letter shoots up to the left - ɾ - as in the Khoh plates[3(a)] of Mahārāja Hastin of the year 163, Nalanda seal[3(b)] of Vishṇugupta, Eran posthumous pillar inscription[3(c)] of Goparāja and Paharpur copper-plate[3(d)] grant of the year 159.

La La is of three varieties. One of these -ळ -, is preserved in the north western inscriptions of the Gupta period and the other cursive one -ऴ - seen occasionally in Kushāṇa period becomes common in the so-called Eastern

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1. C.I.I., III, pl. ii, B, l.1.
2. Ibid., pl. xiv, l.18.
3(a) Ibid., pl. xiii, l.1 (re).
3(b) E.I., XXVI, pl. facing p. 239, l.4 (rā).
3(c) C.I.I., III, pl. xii B, l.3 (rā).
3(d) E.I., XX, pl. between pp. 62-63, l.1.

variety of the Northern Gupta script. The third type -) - having its vertical curved towards left as seen in the Udayagiri cave inscription[1] of the year 82 belongs to the Southern variety.

Va Va has both the triangular and rounded forms.

Śa Śa does not show any change.

Sha Side by side with the old form, sha has developed a new shape where a semi-circular stroke is attached to the inner oblique stroke - ष - as in the Allahabad pillar inscription[2] of Samudragupta.

Sa The looped form of sa, occasionally met with in the Kushāṇa period becomes common in the north eastern inscriptions of the Gupta period. The usual Kushāṇa type is retained in the North-western variety of this period.

Ha Ha is of three types. The usual Kushāṇa type is retained in the North-western variety while the cursive one which occurred occasionally in the Kushāṇa period becomes common in the Eastern inscriptions of this period. The third type with a bend in the left hand vertical is a Southern peculiarity and appears for example in the Sanchi inscription[3] of Chandragupta of the year 93.

La La is formed thus - ऽ - as in the Allahabad pillar inscription[4] of Samudragupta.

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1. C.I.I., III, pl. ii, B, l.2.
2. Ibid., pl. i, l.5.
3. Ibid., pl. iii B, l.10.
4. Ibid., pl. i, l.19.

Medial ā, i, u, e and ai sometimes approximate the Nāgarī signs. Only the signs of o and au are quite archaic.

ā Generally medial ā is denoted by a top stroke which is sometimes curved - पा (pā) - as in the Allahabad pillar inscription[1] of Samudragupta. Another sign - नां (nāṁ) - where top bar projects vertically downwards is often seen as in the Sarnath Buddhist stone inscription[2] of Kumāragupta of the year 154. In the Allahabad pillar inscription,[3] the stroke is attached in the middle of ś - शा (śā), g - गा (gā), dh - धा (dhā). In the Kalaikuri copper plate,[4] it is attached at the bottom of dh - ध्या (dhā) and in the Baigram copper plate[5] at the bottom of ś - श्रा (śā), Kh - ख्रा (khā) and b - ब्रा (brā). In ṇā, sometimes a leftward stroke is attached at the bottom thus - ण्या (ṇā) as in the Allahabad pillar inscription[6] and sometimes an upward stroke at the end of the right hook - ण्यां (ṇāṁ) - as in the Mathura pillar inscription[7] of Chandragupta of the year 61. In ṭā - ट्या (ṭā) - the sign is a hook open on the top as in the Allahabad pillar inscription[8] of Samudragupta. In jā, the stroke goes

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1. C.I.I., III, pl. i, l.31.
2. A.S.I., An Rep. 1914-15, pl. lxix, n.1.1.
3. C.I.I., III, pl. i, ll.5, 31, 6.
4. I.H.Q., XIX, pl. facing p. 21, l.2.
5. E.I., XXI, pl. between pp. 80-81, l.6 (śā), l.2 (khā & brā).
6. C.I.I., III, pl. i, l.8.
7. E.I., XXI, pl. facing p. 8, l.9.
8. C.I.I., III, pl. i, l.33.

upwards as in the preceding period. In mā it is a downward curved stroke from the right end - ꣿ - as seen in the Allahabad pillar inscription.[1]

i Usually the sign of medial i is a curve facing left. In the Southern variety, it becomes a loop - 𑀣 (thi) - as in the Eran stone inscription[2] of Samudragupta.

ī Contrary to the shape of short medial ī, the curve of the long medial ī is open to the right. In the Southern variety, an additional vertical bar appears in the loop thus - 𑀲 (sī) as in the Sanchi inscription[3] of Chandragupta.

u Side by side with the archaic signs, the advanced sign of medial u which appeared occasionally in the Kushāṇa period is met with more often. In the northern inscriptions, medial u in nu is shown by prolongation of the bottom stroke thus - 𑀦 - as in the Allahabad pillar inscription[4] while in the Southern variety it is hooked to the left - 𑀜 (nu) as in the Sanchi inscription of Chandragupta of the year 93.[5]

ū The sign of long medial ū generally consists of a vertical bar with a curved stroke appended on the left thus - ꣾ - as already seen though occasionally in the

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1. C.I.I., III, pl. i, l.11.
2. Ibid., pl. ii, A, l.11.
3. Ibid., pl. iii, B, l.1.
4. Ibid., pl. i, l.33.
5. Ibid., pl. iii, B, l.3.

Kushāṇa period. Sometimes it is formed by adding a downward stroke to the sign of short medial ū open at the top as in ṭṭū - ट्ट - and bhū - भ्ू - of the Allahabad pillar inscription[1] of Samudragupta.

ṛi The medial ṛi is generally represented by a hook open to the right. In the Southern variety, it is a left-ward curled curve - ञ्ृ (nṛi) - as exemplified in the Eran stone inscription[2] of Samudragupta.

e The medial e is usually denoted by a curved stroke at the top - े - as in the Allahabad pillar inscription.[3] The older sign i.e. a horizontal stroke to the left appears as well which sometimes hangs downwards forming a hook - ॅ (te) - as in the Eran stone inscription[4] of Samudragupta.

ai Mostly the medial ai is represented by two left-ward curved strokes at the top - ै . Sometimes one of these is placed horizontally and the other vertically - ॾ (dai) as in the Allahabad pillar inscription.[5]

o The sign of medial o, often consists of two curved strokes in the opposite direction - ो - as already seen occasionally in the Kushāṇa period. Sometimes one of these is placed vertically - ॊ (mno) as in the Allahabad

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1. C.I.I., III, pl. i, l.19 (ṭṭū), l.33 (bhū).
2. Ibid., pl. ii, A, l.8.
3. Ibid., pl. i, l.10 (ke).
4. Ibid., pl. ii, A, l.13 (te).
5. Ibid., pl. i, l.20.

pillar inscription.[1] Later on the right hand stroke is placed horizontally which further projects downwards - ॅ (to) - as in the Eran pillar inscription of Budhagupta of the year 165.[2] In ṭ, m, j, the sign is attached in a different way as in case of medial ā, the first two can be seen in the Allahabad pillar inscription,[3] and the third in the Mehrauli posthumous iron pillar inscription of Chandra.[4] In the Kalaikuri[5(a)] and Baigram[5(b)] copper plates, one of the strokes is appended at the top in g, ṇ, b, ś thus - ॊ (go), ॐ (ṇo), ॎ (bo), ॏ (śo).

au Medial au presents two shapes as in the preceding period.

Anusvāra and Visarga Anusvāra and visarga are shaped as in Nāgarī.

Conjuncts Subscript ya is cursively drawn though tripartite form lingers on as can be inferred from its appearance in the Junagadh rock inscription of Skandagupta[6] where cursive form occurs side by side. Superscript r remains unchanged but subscript ra has developed a deep

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1. C.I.I., III, pl. i, l.28 (mno).
2. Ibid., pl. xii, A, l.6.
3. Ibid., pl. i, l.28 (ṭo), l.20 (mo).
4. Ibid., pl. xxi, A, l.4 (jo).
5(a) I.H.Q., XIX, pl. facing p. 21, l.12 (go), l.21 (ṇo), l.2 (bo), l.4 (śo).
5(b) E.I., XXI, pl. between pp. 80-81, l.2 (go and ṇo), l.3 (bo).
6. C.I.I., III, pl. viii, l.4 (gyaṁ).

curve in the Southern variety thus - ञ (tra) as in the Eran pillar inscription of Samudragupta.[1]

Jihvāmūlīya The shape of Jihvāmūlīya - ᚷ - as it appears in the Udayagiri cave inscription[2] consists of a multiplication sign with its top and bottom closed.

Upadhmānīya Upadhmānīya - ᚹ - as it occurs in the Udayagiri cave inscription[3] is developed from the form seen in the Nandsa inscription by introducing a notch at the top of the circle.

Hal Final consonant is represented in the same way as in the Nandsa inscription.

Varieties

As has already been seen in the previous chapter, the script is undergoing change very fast and most of the characteristics leading to the Southern variety have appeared in the Nandsa inscription. Further development of the script leading to a number of other varieties is noticeable in this period.

The Gupta script possesses mainly two varieties the Northern and the Southern. The Northern is further divided into the North eastern and North western. The sub-varieties of the Southern alphabet represented by

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1. C.I.I., III, pl. ii, A, l.19.
2. Ibid., pl. iv, A, l.4.
3. Ibid.

Gupta records are the Western and the Central Indian script.[1]

Eastern and Western Varieties of the North Gupta Alphabet:

La, sha, sa, ha have been taken as the test letters in order to distinguish the Eastern and Western varieties.[2] The so called eastern forms of sha and sa have a loop on the left and la, ha, are cursive with their horizontal stroke completely supressed whereas in the Western variety, the older forms are preserved. It has been observed that the Eastern forms of la, sha, sa and ha appear in -

1. The Allahabad pillar inscription of Samudragupta,[3]
2. Mehrauli posthumous inscription of Chandra,[4]
3. Udayagiri cave inscription of Vīrsena of the time of Chandragupta,[5]
4. Gadhwa inscription of Chandragupta II of the year 88,[6]
5. Gadhwa inscription of Kumāragupta I,[7]

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1. Dani has suggested the names Kauśāmbī style, Mathura style, Gujarat style and Eastern Malwa style for these varieties (Indian Palaeography, pp. 85-97).
2. Bühler points out la, sa, ha, Indian Palaeography, p. 65, R.D. Banerji - sha, sa, Origin of Bengali Script, pp. 24-25 Hoernle - sha, "Varieties of Gupta Brahmī", J.A.S.B., 1891, p. 79 f.
3. C.I.I., III, pl. i.
4. Ibid., pl. xxi, A.
5. Ibid., pl. iv, A.
6. Ibid., pl. iv, B.
7. Ibid., pl. iv, C.

6. Gadhwa inscription of Kumāragupta I of the year 98,[1]

7. Kalaikuri Copper plate inscription of the year 120,[2]

8. Baigram Copper plate inscription of the year 128,[3]

9. Mankuwar Image inscription of Kumāragupta I of the year 129,[4]

10. Kahaum Pillar inscription of Skandagupta of the year 141,[5]

11. Sarnath Buddhist stone inscription of Budhagupta of year 157,[6]

12. Paharpur Copper plate grant of the year 159.[7]

The inscriptions which represent Western variety are:-

1. Mathura inscription of Chandragupta II,[8]

2. Mathura pillar inscription of Chandragupta of the year 61,[9]

3. Udayagiri cave inscription of the time of Kumāragupta I of the year 106,[10]

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1. C.I.I., III, pl. iv, D.
2. I.H.Q., XIX, pl. facing p. 21.
3. E.I., XXI, pl. between pp. 80-81.
4. C.I.I., III, pl. vi, A.
5. Ibid., pl. ix, A.
6. A.S.I., An. Rep. 1914-15, pl. lxix, n.
7. E.I., XX, pl. between pp. 62-63.
8. C.I.I., III, pl. iii, A.
9. E.I., XXI, pl. facing p. 8.
10. C.I.I., III, pl. xxxviii, A.

4. Mathura Jain Image inscription of the year 113,[1]
5. Karamadanda inscription of the reign of Kumāragupta of the year 117,[2]
6. Mathura stone image inscription of the year 135,[3]
7. Bhitari pillar inscription of Skandagupta,[4]
8. Indore Plate of Skandagupta of the year 146,[5]
9. Khoh Plates of Mahārāja Hastin of the year 163,[6]
10. Eran Pillar inscription of Budhagupta of the year 165.[7]
11. Eran posthumous pillar inscription of Goparāja of the year 191,[8]
12. Sohawal Copper plate of Śarvanātha of the year 191,[9]
13. Majhagawan plates of Mahārāja Hastin of the year 191,[10]
14. Bhumara plates of Mahārāja Hastin and Śarvanātha of the year 191.[11]

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1. E.I., II, no. xxxix of pl. facing p. 209.
2. E.I., X, pl. facing p. 71.
3. C.I.I., III, pl. xxxix, A.
4. Ibid., pl. vii.
5. Ibid., pl. ix, B.
6. Ibid., pl. xiii.
7. Ibid., pl. xii, A.
8. Ibid., pl. xii, B.
9. E.I., XIX, pl. between pp. 130-31.
10. C.I.I., III, pl. xiv.
11. Ibid., pl. xv, A.

All of these come from the west of Allahabad district which may be taken as the dividing line.

The eastern inscriptions showing western form of one letter or the other are Damodarpur copper plate inscription of the year 124 which displays western la and ha, Bihar pillar inscription of Skandagupta where western ha occurs side by side with the eastern. Sarnath Buddhist stone inscription of Kumāragupta of the year 154 presents western la and the Nalanda seal of Vishnugupta possesses western ha and both eastern and western sa. It seems that the occurrence of these forms is due to the displacement of the Eastern variety by the Western.[1]

On the contrary, the appearance of eastern forms in the western inscriptions is negligible. Only cursive la has been met with in the Bilsad pillar inscription of Kumāragupta. The occurrence of eastern forms of la, sa, ha, in the Udyagiri cave inscription of Vīrssena is due to his being an inhabitant of Pāṭaliputra. Similarly, the occasional appearance of these forms in the Kushāṇa inscriptions from Mathura can be attributed to the scribe who may originally be belonging to Eastern India where these forms appear commonly as in the inscriptions of the Maghas of Kauśāmbī. Thus, it seems plausible to conclude that the Northern variety of the Gupta script had two sub-varieties, the test letters being la, ś̸a, sa and ha.

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1. cf. J.A.S.B., 1891, p. 82.

Southern Variety and its Division:

The Southern variety has been distinguished from the northern because of certain peculiarities as:-

i) Hooks at the bottom of a - , ā - , ī - , ka - , ña - , ra - (though hooked ka and ra sometimes occur in the northern inscriptions).

ii) Indented left limbs of gha - , pa - , ba - , sha - , and ha - resulting in the broader lower half of these letters.

iii) Tailed la - .

iv) Rounded ḍa - whereas the northern is narrow and pointed in the middle.

v) Leftward open curl for the medial ṛi - (nṛi).

vi) Deep hook representing subscript ra - (tra).

vii) Kha - , ga - , śa - having neither knob nor small horizontal bar at the left down stroke.

viii) ṇa - with two curved strokes rising from one vertical.

ix) Peculiar signs for the medial u in pu - , shu - , mu - , hu - etc.

x) New shape of initial e - .

xi) Confinement of triangular ma - to the Southern variety after the time of Chandragupta II in whose inscription of the year 61, found at Mathura, the archaic ma appears.

xii) Nearly rectangular form of cha - .

The Gupta records which display southern characteristics are as follows:-

1. Sanchi inscription of Chandragupta II of the year 93,[1]
2. Mandasor inscription of Kumāragupta and Bandhuvarman of Mālava year 493 and 529.[2]
3. Sanchi stone inscription of the year 131,[3]
4. Junagadh Rock inscription of Skandagupta of years 136, 137, 138.[4]

In Nos. 1, 2, 4, northern form of cha having a pointed belly appears while southern form occurs in No. 3.

Nos. 1 and 3 present northern form of dha. This variety with mixture of northern forms is named as the Western variety of the southern alphabet.[5]

In Central India, another sub-variety had developed from the southern script. This variety is known as Box-headed or Central Indian variety because of the box-heads in place of top-strokes.

The Gupta-inscriptions representing Box-headed variety are:-

1. Eran stone inscription of Samudragupta,[6]
2. Udayagiri cave inscription of Chandragupta of

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1. C.I.I., III, pl. iii B.
2. Ibid., pl. xi.
3. Ibid., pl. xxxviii B.
4. Ibid., pl. viii.
5. G. Bühler, Indian Palaeography, p. 81.
6. C.I.I., III, pl. ii, A.

the year 82,[1]

3. Tumain Fragmentary inscription of Kumārgupta I of the year 116.[2]

In these inscriptions, often the curved strokes have been replaced by angles, though angularisation is not so marked as in the Vākāṭaka Copper plate inscriptions.

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1. C.I.I., III, pl. ii, B.
2. E.I., XXVI, pl. facing p. 117.

CHAPTER 8

THE POST GUPTA SCRIPT

The detailed description of the post-Gupta script will be out of place here and for our present purpose it will be sufficient to examine the development of the script in Northern India from which Nāgarī finally evolved.

The use of Northern script was extended to Central India in the 6th century A.D. as is testified by the inscriptions from Eran and Gwalior where Southern alphabet was used earlier.

In the first few decades of the sixth century A.D., the script in Northern India does not much depart from the script of the fifth century but advancement in the shape of a few letters is noticeable.

The script of this period following the Gupta script till the advent of Nāgarī can be divided into two phases.

1. Script in the first three quarters of the sixth century A.D.

2. Acute-angled script (for the last quarter of the sixth century to eighth century).

The changes which are met with in the post-Gupta alphabet of the first three quarters of the sixth century are being given below in detail.

A The form of initial a - अ - having a curve at the end of the left stroke as already seen in the Gupta period is used exclusively now.

Ā The lengthening of ā is invariably denoted by a curved stroke at the bottom thus - ा .

I Side by side with the old form (ि), two new forms of i are met with. In the first new shape - ि occurring in the Eran Boar inscription of Toramāṇa,[1] a curved stroke is drawn in place of the lower circle. In the other form - ि - appearing in Asīragadh copper seal,[2] two dots are placed below a horizontal bar.

U The form of u having the curve open to the left becomes common now.

Ū The additional horizontal bar for making long ū from the short u becomes curved thus- ू as in the Kura inscription of Toramāṇa.[3]

E, Ai The shapes of initial e and ai remain unchanged.

O The form of o as it appears in the Mandasor

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1. C.I.I., III, pl. xxiii A, l.2.
2. Ibid., pl. xxx, l.2.
3. E.I., I, pl. facing p. 240, l.1.

inscription of Yaśodharman alias Vishnuvardhan[1] is different from the one seen in the Gupta period. It is distinguished by an appendage to the right - ञ .

Au Au does not occur.

Ka A new shape of ka is developed where end of the vertical line shoots up to the left to meet the crossing curve thus - क . It can be seen in the Sumandala plates of the time of Prithvīvigraha Bhattāraka of G.Y. 250.[2]

Kha Kha shows advancement by straightening the right hand side of the triangle thus - ख - as in the Gwalior inscription of Mihirkula.[3]

Ga Ga remains unchanged.

Gha Gha is generally notched at the bottom.

Ṅa, Cha, Chha Ṅa, cha, chha show no change.

Ja In the new shape of ja occurring in the Jaunpur inscription of Īśvaravarman[4], the lower stroke slants downwards and the top-stroke is reduced to a thick head, thus - ज़ (jāṁ).

Ña Ña is formed cursively in the Sumandala plates,[5] - ञ्च (ñcha).

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1. C.I.I., III, pl. xxii, l.5.
2. E.I., XXVIII, pl. between pp. 84-85, l.3.
3. C.I.I., III, pl. xxiic, l.4.
4. Ibid., pl. xxxii, l.6.
5. E.I., XXVIII, pl. between pp. 84-85, l.3.

Ṭa, ṭha, ḍa, ḍha, ṇa. Ṭa, ṭha, ḍa, ḍha, ṇa show no appreciable change.

Ṭa Ṭa with right limb longer is common.

Ṭha A quite modern-looking form of ṭha is met with in the Sumandala plates[1] where the upper half becomes a loop detached from the vertical thus, (thi).

Ḍa Ḍa having developed a tail at the bottom appears in the Sumandala plates.[2]

Ḍha Ḍha does not show any change.

Ṇa Side by side with the looped form, the modern looking ṇa appears in the Gwalior, Mandasor, Jaunpur and Haraha Inscriptions.[3] Apparently, the predilection for the vertical on the right side of the letters is responsible for this change.

Pa, pha, ba, bha, ma Pa, pha, ba, bha, ma remain unchanged.

Ya Tripartite form is found in all the inscriptions except in Sumandala plates[4] where bipartite form is met with.

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1. E.I., XXVIII, pl. between pp. 84-85, l.3.
2. Ibid., l.1.
3. C.I.I., III, pl. xxiii B, l.5 (nā).
   Ibid., pl. xxiic, l.5.
   Ibid., pl. xxxii A, l.6.
   E.I., XIX, pl. facing p. 118, l.2.
4. E.I., XXVIII, pl. between pp. 84-85, l.10.

Ra A new form of ra - ɾ is met with in the Mandasor inscription[1] where an oblique bar shoots up to the left. In a more advanced shape - ɾ which occurs in the Jaunpur inscription,[2] a tail is developed.

La An advanced form of la - ल - where vertical line is slightly projected downwards beyond the horizontal part, is met with in the Mandasor and Haraha inscriptions.[3]

Va The new and advanced shape of va - व which occurs in the Jaunpur inscription,[4] has the elongated vertical line.

Sa The new form of sa occurring in the Gwalior inscription,[5] consists of the central stroke starting from the bottom of the left hook thus - श .

Ha Besides the old forms of ha, a new tailed form has been developed as seen in the Jaunpur inscription.[6] The tail hangs from the point whence the lower hook starts.

Medials Medials do not show any appreciable change except in case of medial i and ī. The curved strokes of these medials reach down to the bottom thus ि , ी respectively

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1. C.I.I., III, pl. xxii C, l.1.
2. Ibid., pl. xxxii A, l.10.
3. C.I.I., pl. xxii C, l.1.
   E.I., XIV, pl. facing p. 118, l.2.
4. C.I.I., III, pl. xxxii A, l.5.
5. Ibid., xxiii B, l.4.
6. Ibid., xxxii A, l.1.

as in the Mandasor and Jaunpur inscriptions.[1]

<u>Conjuncts</u> As regards conjuncts, it is noticeable that the superscript <u>r</u> is placed sometimes above the top-line - (rshe) and sometimes below - (rmma) as in Eraṇ inscription and Haraha[2] inscription respectively.

<u>Acute-angled Script:</u>

Towards the close of the sixth century, the letters begin to incline from right to left. It results in the formation of acute-angle on the right end of the letters like <u>gha</u> - , <u>pa</u> - , <u>ma</u> - , <u>ya</u> - , <u>sha</u> - , <u>sa</u> - . On this account, the alphabet of this period is called acute-angled and sometimes as Kuṭila.[3] The other characteristic of this script is the wedge-shaped top-marks. The earliest inscription illustrating these peculiarities is the Bodh-Gaya inscription of Mahānāman of A.D. 588-89.[4]

The development of this script during the seventh century is exhibited in the inscriptions of Harsh from

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1. <u>C.I.I.</u>, III, pl. xxii C, 1.2 (pi), 1.17 (nī).
   Ibid., xxxii A, 1.5 (mī), 1.4 (rī).
2. <u>C.I.I.</u>, III, pl. xxiii A, 1.5.
   <u>E.I.</u>, XIV, pl. facing p. 118, 1.3.
3. Fleet, <u>C.I.I.</u>, Vol. III, p. 201.
4. <u>C.I.I.</u>, III, pl. xli.

Banskhera[1(a)] and Madhuban[1(b)] and of Ādityasena from Aphsad[1(c)] and Shahpur[1(d)]. Here the lower ends of the two arms of the acute-angle show a more marked twist thus - प (pa), फ (pha), म (ma), य (ya), श (sha) and स (sa).

The acute-angled script was used from Gilgit[2] in the north to Tiwarkhed[3] in Betul District of Madhya Pradesh in the South and from Nidhanpur[4] in Panchakhanda, Sylhet, Assam in the East to Vasantagadh[5] in Rajasthan in the west during the VII-VIII centuries. Sporadic use of this script continued upto the last quarter of the ninth century as is testified by the Vaillabhaṭṭaswāmin (Gwalior) temple stone inscription[6] of 876 A.D.

Beyond the frontiers of India, its use can be seen in the Kabul inscription of Shahi Khiṅgāla.[7] It has also been used in the inscriptions from Ceylon, Nepal, Tibet,

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1(a) E.I., IV, pl. facing p. 210.
1(b) E.I., VII, pl. facing p. 158.
1(c) C.I.I., III, pl. xxviii.
1(d) Ibid., pl. xxix, A.

2. Gilgit manuscript.
3. Tiwarkhed C.P. of Śaka Year 553, E.I., XI, pl. facing p. 279.
4. Nidhanpur C.P. of Bhāskaravarman, E.I., XII, p. 73 f.
5. Vasantagadh inscription of Varmalāta dated V.S. 682, E.I., IX, p. 190.
6. E.I., I, pl. facing p. 160.
7. E.I., XXXV, pl. facing p. 46.

Java, Cambodia, Central Asia, China and Japan.[1]

Siddham:

This acute-angled alphabet of Northern India which has been identified with the Siddhamātṛikā mentioned by Alberuni, was introduced in China in the 7th century A.D. as a result of the need felt there for learning correctly, certain popular prayers and charms, called Dhāraṇī. The Chinese called this script as Siddham. The name is probably derived from the occurrence of the auspicious Sanskrit word Siddham which was written at the beginning of almost every record, from the days of the Sātavāhanas onwards. The almost invariable practice of using this benedictory expression at the beginning of Indian documents resulted in giving an impression to the foreigners that it was a word for writing.[2]

Amoghavajra and other Tantrik masters again stressed that even mantra transcribed as accurately as possible with Chinese characters could never be as efficacious as

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1. Filliozat, J. Political History of India, Eng. tr. pp. 61-68.
   Chhabra, B. Ch., Expansion of Indo Aryan Culture, pp. 10-57.
   Dani, A.H., Indian Palaeography, pp. 215-47.
   Sircar, D.C., Indian Epigraphy, pp. 202-18.
   Gulik, R.H. van, Siddham.

2. B. Ch. Chhabra, Diplomatic of Sanskrit Copper plate Grants, pp. 7-8.

those written in the original Indian script. Now Śubhākarasimha, Vajrabodhi, Amoghavajra and the other masters wrote a variety of the Brāhmī script that at that time seems to have been widely used in India. Thus it was this script that became the style of writing favoured by Chinese Buddhists above all others for Sanskrit mantra and dhāraṇī and which has remained in use for that purpose till the present day in both China and Japan. There it is always referred to by the term hsi-t'an "Siddham".[1]

An additional reason of its popularity in China was its artistic beauty. Moreover, it could be written in vertical columns and thus did not interfere with their usual way of writing.

A number of books were written on this script by the Chinese. It was also utilized to prepare Sino-Sanskrit vocabularies where Sanskrit words were recorded in the Siddham script and their translation in Chinese.

The Chinese did not write it with the reed pen as was done in India. They adopted their writing brush (mao-pi) to this purpose as they liked larger forms of letters for displaying their calligraphic skill. The writing tool led to some calligraphic modifications otherwise the script did not undergo any appreciable

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1. Gulik, R.H. van, Siddham, p. 53.

change through centuries of its use in China. After the Mongol occupation of China in 1280, studies on Siddham declined and from the seventeenth century, it was completely forgotton.

In Japan, it was introduced in the eighth century through Buddhist monks. There is evidence to show that it was taught at College in Nara in 750 A.D.[1]

As in China, so also in Japan, the Siddham alphabet supplied a model for the arrangement of their syllabary which is preserved to the present day.

In Japan, it has been a popular subject of study also. In 880 A.D., an extensive work of eight volumes written in Sino-Japanese was completed by An-nen.

Siddham lost much of its popularity from the last quarter of the twelvth century to the sixteenth century due to political reasons. After this period, studies on Siddham were again revived and it attained the artistic perfection which surpassed the Chinese attainment in this field.

Further advancement seen in the post-Gupta script during the last quarter of the sixth century and seventh century A.D. is presented below:

I Two new shapes of i are met with in the seventh century A.D. In one of these, lower circle develops a

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1. R.H. van Gulik, Siddham, p. 111.

tail going downwards to the right - ॰ - as in the Aphsad inscription[1] and in the other it goes upwards to the left - ॰ - as in the inscriptions of Harsha[2(a)] and Udaipur inscription of Aparājita.[2(b)]

Ī The form of long Ī is not met with.

Ai The sign of initial ai is formed by adding a curved stroke at the top of the sign of e - े - as in the Lakkhamandal Praśasti of the year 600.[3]

O, Au Signs of o and au do not occur.

Ka The looped form of ka - क - as already seen in the Sumandala plates[4] becomes common now though the older one appears side by side in the seventh century also.

Kha A new shape of kha having a distinct bow-shaped form in place of the triangle - ख - is developed in the Banskhera[5(a)] and Madhuban[5(b)] plates of Harsha, Aphsad[5(c)] and Shahpur inscriptions[5(d)] of Ādityasena. However, the older one survives in the Vasantagadh and Udaipur inscriptions.

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1. C.I.I., pl. xxviii, l.2.
2(a) E.I., IV, pl. facing p. 210, l.3, E.I., VII, pl. facing p. 158 l.6.
2(b) E.I., VII, pl. facing p. 30.
3. E.I., I, pl. to face p. 12 (facing p. 56), l.4.
4. E.I., XXVIII, pl. between pp. 84-85, l.3.
5(a) E.I., IV, pl. facing p. 210, l.6.
5(b) E.I., VII, pl. facing p. 158, l.7.
5(c) C.I.I., III, pl. xxviii, l.3.
5(d) Ibid., pl. xxix, A, l.1.

Ga The form of ga does not show any appreciable change.

Gha Gha commonly shows acute angle at the right end.

Na Na retains its old form.

Cha Cha develops a tail at the right end thus - च् as in the Tiwarkhed copper plate of 632 A.D.[1(a)] and Shahpur Image inscription of Ādityasena.[1(b)]

Cha, Ja. Cha, ja appear in the old way.

Jha The horizontal bar of jha slopes downwards to the right making it acute angled - झ - as in the Banskhera[2(a)] and Madhuban[2(b)] copper plates.

Ña Ña appears in its old form.

Ṭa Ṭa shows the top mark - ट् - though occasionally as in the Madhuban copper plate.[3]

Ṭha, Ḍa, Ḍha Ṭha, ḍa and ḍha preserve their old shapes.

Ṇa The horizontal bar of ṇa slightly slants to the right - ण् - making the letter acute angled as in the Madhuban copper plate.[4]

Ta The form of ta remains unchanged.

1(a) E.I., XI, pl. facing p. 279, l.6.
1(b) C.I.I., III, pl. pl. xxix A, l.1.
2(a) E.I., IV, pl. facing p. 210, l.6.
2(b) E.I., VII, pl. facing p. 158, l.7.
3. Ibid., l.9.
4. Ibid., l.5 (ṇe).

Tha Notched type of tha as already seen in the Gupta period is occasionally met with. The other old type is more common.

Da Tailed da appears side by side with the older form.

Dha Dha shows no change.

Na The form of na where loop is opened at the bottom and hook on the right straightened - ऩ - is more common now. However, the looped form still survives.

Pa Pa is usually acute angled in this period.

Pha Pha does not show any appreciable change.

Ba Usually ba is denoted in the old way. But it is expressed by va in the Madhuban copper plate.[1]

Bha The right vertical or curved line of bha becomes hooked - ऋ - in the seventh century which is exemplified in the Madhuban copper plate[2] of Harsha.

Ma Ma is generally of acute angled variety.

Ya The bipartite ya becomes common from the last quarter of the sixth century though the tripartite form still survives in the Vasantgadh inscription of V.S. 682[3] and Udaipur inscription of V.S. 718.[4] The latter

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1. E.I., VII, pl. facing p. 158, l.1.
2. Ibid., l.1.
3. E.I., IX, pl. facing p. 190, l.1.
4. E.I., IV, pl. facing p. 30, ll.1 (tripartite), 5 (bipartite).

presents bipartite form side by side. It seems to have disappeared completely later on as can be inferred from its invariable use in the Jhalrapatan inscription of V.S. 746[1](A.D. 689) and other later inscriptions.

Ra The tailed ra becomes common now though the older one is retained in the Udaipur inscription of Aparājita.[2]

La The form of la, with the vertical line prominently projected beyond the central horizontal bar - ल - is mostly seen in the inscriptions of the seventh century A.D. However, appearance of the older form in the Vasantgadh inscription[3] reflects that it was not completely discarded at least in the first few decades of this century.

Va Va with a tail - व - at the bottom becomes common now. The older one without tail appears invariably in the Vasantgadh[4] and often in the Udaipur inscription[5] but never in the Jhalrapatan inscription of V.S. 746[6] (A.D.689).

Śa Occasionally a new form of śa - श - occurs where the top-bar and the central-bar have been combined so as to form a loop which does not touch the vertical on the

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1. I.A., V, pl. between pp. 180-81, l.1.
2. E.I., IV, pl. facing p. 30, l.1.
3. E.I., IX, pl. facing p. 190, l.15.
4. Ibid., l.14.
5. E.I., IV, pl. facing p. 30, l.1.
6. I.A., V., pl. between pp. 180-81.

right as in the Udaipur inscription[1(a)] and Shahpur inscription.[1(b)]

Sha — Sha mostly acute-angled - ष .

Sa — The acute-angled sa - स - is common in this period.

Ha — Side by side with the old form of ha, tailed one - ह - appears occasionally in this period, as can be seen in the Banskhera copper plate.[2]

ā — The hooked as well as upward stroke for expressing medial ā are equally common in this period.

i, ī — The curved strokes of medial i and ī open to the left and right respectively reach down to the bottom thus - ि , ी - become common now.

u — Sign of the medial u doesnot show any change.

ū — The medial ū is generally shaped as in the preceding period. Sometimes a cursive form - ू - is developed from the hooked one - ु - as in the Bodh-Gaya[3(a)] and Aphsad[3(b)] inscriptions.

ri — Only the modern-shaped sign of medial ri which is first seen in the Kushāṇa inscriptions, survives.

1(a) E.I., IV, pl. facing p. 30, l.3 (śrī).
1(b) C.I.I., III, pl. xxix, A, l.4 (ścha).
2. E.I., IV, pl. facing p. 210, l.1.
3(a) C.I.I., III, pl. xli, l.10 (sū).
3(b) Ibid., pl. xxxiii, l.3 (chū).

Conjuncts Nothing particularly new is noticeable in the form of the conjuncts. However, the superscript r is sometimes inserted below the top-line - ... (rvva) - as in the Madhuban plate.[1]

Proto-Nāgarī:

The script of the period following that of the acute-angled or Kuṭila script may be regarded as preparing ground for the rise of the script called Nāgarī by Alberuni and to-day generally known as Devanāgarī. It can be named as Proto-Nāgarī.

Here the wedges at the top become broader or are replaced by small straight strokes. Tails are developed at the bottom of the letters. The earliest specimen of proto-Nāgarī is met with in the sign-manual -स्व हस्तो मम श्री दद्दस्य (sva hasto mama śrī Daddasya) of Gurjara Dadda III of Nāndīpurī[2] in the Prince of Wales Museum plates of the (Kalachuri) year 427[3] (A.D. 677). The first long inscription written in this script is the Multai copper plate

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1. E.I., VII, pl. facing p. 158, l.8.
2. Gurjaras of Nāndīpurī is the new name of the family of Dadda based on the identification of the Nāndīpurī of plates with Nandod by Bhagwanlal Indraji (I.A., XIII, p. 73). The old name Gurjaras of Broach based on wrong identification has been discarded in recent publications like the Classical Age (Volume III of the History and Culture of the Indian people).
3. C.I.I., IV, pl. facing p. 620 (last line).

of A.D. 708-09[1] which also comes from Western India. The first northern inscription displaying broader wedges, tails and a large number of proto-Nāgarī shapes of letters is the Nalanda inscription[2] of Yaśovarmadeva (C. 734 A.D.). In the later stage of proto-Nāgarī, sometimes long head-lines side by side with the shorter ones appear as in the copper plates of Dharmapāla,[3(a)] Devapāla[3(b)] and Asni stone inscription of Mahīpāla.[3(c)]

The detailed exposition of the alphabet as it prevailed in the eighth and ninth centuries of the Christian era follows:

A Side by side with the old forms of a, a new form is met with. In this form, a little stroke is appended at the bottom and the top-wedge is broader -अ - as in the Nalanda inscription of Yaśovarmadeva,[4(a)] Khalimpur copper plate of Dharmapāla,[4(b)] Nalanda[4(c)] and Mungir plates[4(d)] of Devapāla.

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1. I.A., XVIII, pl. between pp. 234-35.
2. E.I., XX, pl. facing p. 43, l.8.
3(a) J.A.S.B., 1908, pl. iv; Ibid., 1894, pl. iii.
3(b) E.I., XVII, pl. between pp. 320-21; E.I., XVIII, pl. facing p. 306.
3(c) I.A., XVI, pl. facing p. 174.
4(a) E.I., XX, pl. facing p. 43, l.8.
4(b) J.A.S.B., 1894, pl. III, l.4.
4(c) E.I., XVII, pl. between pp. 320-21, l.9.
4(d) E.I., XVIII, pl. facing p. 306, l.40.

Ā Side by side with the bottom curve representing the lengthening of ā, a little vertical line starting from the top-line - ঽ - is seen in the Bhandak copper plate of A.D. 772.[1] A still longer line reaching the level of the bottom appears in the Khalimpur copper-plate of Dharmapāla,[2(a)] Nalanda[2(b)] and Mungir plates[2(c)] of Devapāla and Dighwa-Dubauli plate of Mahendrapāla.[2(d)]

I Generally the forms of i are same as seen in the incriptions of Harsha and Ādityasena. But in the copper plates of Pālas,[3] it is a distinct one - ; , developed from the type seen in the Asiragadh copper seal.

Ī Sign of long ī does not occur.

U U does not show any appreciable change.

Ū Sign for initial long ū does not occur.

E The new form of e - ৲ - is met with where a tail is developed at the bottom as in the Nalanda inscription of Yaśovarmadeva[4] though the triangular form likewise occurs.

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1. E.I., XIV, pl. between pp. 124-25, l.2.
2(a) J.A.S.B., 1894, pl. III, l.5.
2(b) E.I., XVII, pl. between pp. 320-21, l.46.
2(c) E.I., XVIII, pl. facing p. 306, l.43.
2(d) I.A., XV, pl. facing p. 112, l.10.
3. e.g., Nalanda copper plate, E.I., XVII, pl. between pp. 320-21, l.15.
4. E.I., XX, pl. facing p. 43, l.18.

Ai The form of ai remains unchanged.

O Sign for o does not occur.

Au The form of au as seen in the Mungir plates of Devapāla is same as seen in the Mandasor inscription of Yaśodharman Vishṇuvandhan.

Ka Ka is always of the looped variety though the form without loop survives in conjuncts and in combination with medial u and ri.

Kha Side by side with the old form, kha has become nearer to .. Nāgarī by developing a tail at the right end -ख - as in the Nalanda inscription of Yaśovarmadeva.[1]

Ga Ga remains unchanged.

Gha Gha has developed a tail at the right end -घ - as in the Talegaon copper plate of A.D. 768.[2] A more advanced shape, having a shorter central stroke and a broader wedge closing the head of the latter -घ - appears in the Khalimpur copper plate.[3]

Na Na retains its old form.

Cha, chha A tail is noticeable at the bottom of cha -च - and chha -छ (chchha) though the older forms without tail likewise survive. The new shapes can be seen in the Nalanda inscription of Yaśovarmadeva.[4]

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1. E.I., XX, pl. facing p. 43, l.6.
2. E.I., XIII, pl. between pp. 280-81, l.3.
3. J.A.S.B., 1894, pl. III, l.16.
4. E.I., XX, pl. facing p. 43, ll. 5, 9 respectively.

Ja A new shape of ja - ज (jā) is met with in the Nalanda inscription of Yaśovarmadeva,[1] where the top-line reduces to become a top-mark, central one curves down and the lowest one making a deep curve open on the left. The older one is more common in the Rāshṭrakūta inscriptions and less frequent in the northern inscriptions.

Jha A little shooting line has been developed at the bottom of jha - झ - as it appears in the Daultabad copper plate.[2]

Ña Ña shows no change.

Ṭa The wedge at the top of ṭa is sometimes replaced by a simple stroke - ट - as in the Bhandak copper plate of A.D. 772[3] though the old one without the top-mark still survives.

Ṭha Occasionally, the modern-looking form of ṭha - ठा (ṭhā) having developed a head-line occurs as in the Khalimpur copper plate.[4]

Ḍa The new and absolutely Nāgarī form of ḍa with a broader central bend and the downward curve turning to left - ड (ḍe) - is met with in the Pimpri copper plate of A.D. 775.[5]

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1. E.I., XX, pl. facing p. 43, l.5.
2. E.I., IX, pl. between pp. 196-97, 198-99, l.51.
3. E.I., XIV, pl. between pp. 124-25, l.13.
4. J.A.S.B., 1894, pl. III, l.37.
5. E.I., X, pl. between pp. 86-87, l.41.

Dha Dha has a straight top-line now.

Na Side by side with the old form, new forms of na - ण - are met with. In one of these, the inner strokes merge so as to become one as in the Nalanda inscription of Yaśovardadeva.[1] In a more advanced shape, the central stroke becomes shorter - ण which can be seen in the Bhandak copper plate of A.D. 772.[2]

Ta In the new form of ta as seen in the Wani copper plate of A.D. 818,[3] the curve on the right has been straightened - ਨ - and the left one starts from the middle instead of the top. Generally the older form prevails.

Tha Tha is generally double-looped and tailed - थ - as can be seen in the Barah copper plate of A.D. 836.[4]

Da Da is exclusively found in the tailed form.

Dha Side by side with the old form, a new form of dha - ध - with a tail is exemplified in the Nalanda inscription of Yaśovarmadeva.[5] In a more advanced shape as found in the Ahar stone inscription of A.D. 865,[6] the vertical line is projected upwards - ध .

Na Usually looped na is met with though sometimes

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1. E.I., XX, pl. facing p. 43, l.8.
2. E.I., XIV, pl. between pp. 124-25, l.3.
3. I.A., XI, pl. between pp. 158-59, 160-61, l.6.
4. E.I., XIX, pl. facing p. 18, l.1.
5. E.I., XX, pl. facing p. 43, l.3.
6. E.I., XIX, pl. between pp. 60-61, l.5.

the other with a straight vertical on the right - न - appears as in the Daultabad copper plate of A.D. 793.[1]

Pa Pa commonly bears a tail at the right end - पि (pi) - as in the Nalanda inscription of Yaśovarmadeva.[2]

Pha Pha with tail - फ - and without tail are equally common. The former can be seen in the Nalanda inscription of Yaśovarmadeva.[3]

Ba A modern shape of ba - ब - is met with in the Ahar stone inscription[4] and is distinguished from the form of va by a cross-bar in the loop.

Bha In the new and most common form of bha, the hook is drawn in continuation of the left limb - भ - instead of starting it from the angle above. It can be seen in the Multai copper plate.[5]

Ma Usually a new shape of ma is met with where a loop appears at the left corner and a tail at the right end - म - as in the Multai copper plate.[6]

Ya Ya with a tail - य - is common as seen in the Multai copper plate.[7]

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1. E.I., IX, pls. between pp. 196-97, 198-99, l.7.
2. E.I., XX, pl. facing p. 43, l.1.
3. Ibid., l.17.
4. E.I., XIX, pl. between pp. 60-61, l.1.
5. I.A., XVIII, pl. between pp. 234-35, l.2.
6. Ibid., l.5.
7. Ibid., l.1.

Ra Ra invariably bears a distinct oblique stroke at the bottom - ऽ - as in the Multai copper plate.[1]

La, Va La and va are mostly shaped as in the inscriptions of Harsha and Ādityasena.

Śa Śa retains its old forms.

Sha The tailed form of sha - ष (shā) with a closed head becomes common now and can be seen in the Nalanda inscription of Yaśovarmadeva.[2]

Sa Sa invariably consists of a tail at the right end as already seen in the inscriptions of the seventh century. In a more advanced form, another tail is developed at the left angle - स - as in the Dhulia copper plate of A.D. 779.[3]

Ha The form of ha with the tail and without tail are equally common.

Hal A new way of expressing the halanta consonant is met with in the Nalanda inscription of Yaśovarmadeva.[4] Here a curved stroke is placed below the letter and the letter is not smaller in size - ह् .

ā Mostly the vertical of medial ā reaches down to the bottom - धा (dhā) - as in the Talegaon copper plate of A.D. 768,[5] though open hook in - ज्ञां (jāṁ) and ta - त

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1. I.A., XVIII, pl. between pp. 234-35, l.2.
2. E.I., XX, pl. facing p. 43, l.10.
3. E.I., VIII, pl. between pp. 186-87, l.1.
4. E.I., XX, pl. facing p. 43, l.8.
5. E.I., XIII, pl. between pp. 280-81, l.1.

(ṭā) still survives as in the Sanjan copper plate of A.D. 872.[1]

i, ī The modern-looking signs of medials i and ī which have already appeared in the earlier period are commonly seen now.

u Two signs of medial u, one a curve open to left and the other an oblique stroke are equally common.

ū Both the signs of medial ū - ু , ূ , as already seen in the inscriptions of the seventh century appear. Occasionally, the hook of the first form is shifted rightwards so that the lower extremity of the letter touches the sign in the middle thus - ভূ (bhū) - as is exemplified in the Dhulia copper plate.[2]

e, ai Medials e and ai are represented in two ways ে , ৈ (med.e); ো , ৌ (med, ai) as have already been seen in the preceding period.

o, au The vertical part of the medials o and au has become longer now. Out of the two forms of each medial o and au, one is like Nāgarī sign - ো , ৌ . The other group is ো (o), ৌ (au) which later develops into left-side stroke (pṛishṭha mātrā).

Conjuncts Some distinct developments are noticeable in the forms of some conjuncts.

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1. E.I., XVIII, pl. between pp. 248-49, ll.5, 6 respectively.
2. E.I., VIII, pl. between pp. 186-87, l.2.

Subscript ya Like the full form of ya, subscript ya with tail - य्य (sya) - appears though occasionally as in the Khalimpur copper plate of Dharmapāla.[1]

Superscript r A new form of superscript r has been evolved by discarding the left hand portion of the top-bar resulting into a angular hook open to the right - र्ध्व (rvva) - as in the Dhulia copper plate of A.D. 779.[2]

Subscript ra Occasionally, the stroke of subscript ra starts a little above the bottom - श्री (śrī) - as can be seen in the Barah copper plate of A.D. 836.[3]

Ksha The modern-looking form of ksha - क्ष - which is distinguished by the absence of the cross-bar of sha appears in the Khalimpur copper plate.[4]

A tendency of writing conjuncts in a horizontal line is descernible in lpha - ल्प - of Dhulia copper plate,[5] where the vertical of l is eliminated and pha is placed to its right instead of below it.

The above study of the inscriptions reflects the fact that the script in Rajasthan retains the earlier forms of several letters as compared with the script of the Ganges valley. The Kaṇaswā stone inscription of

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1. J.A.S.B., 1894, pl. III, l.1.
2. E.I., VIII, pl. between pp. 186-87, l.2.
3. E.I., XIX, pl. facing p. 18, l.1.
4. J.A.S.B., 1894, pl. III, l.4.
5. E.I., VIII, pl. between pp. 186-87, l.10.

Mālava Saṃ 795[1] coming from Kota state in Rajasthan displays letters, e, kha, cha, dha, pa, ya, sha, sa, ha without tails while the contemporary Nalanda inscription of Yaśovarmadeva presents them with tails. Moreover, the form of ja and ṇa is archaic in the Kaṇaswā inscription.

(2) The script of the Pāla records differs from those of Prālihāra records in more than one ways. The heads of a, ā, gha, ma, ya, ṣ̌a, sa are usually closed in the inscriptions of the Pālas while only occasionally in those of contemporary Prāṭihāra records.

The forms of a, ā, and ja and medial ā in the Pāla records are more advanced than the corresponding Praṭihāra letters.

The typical forms of gha and initial ī which later characterise Bengali appear in the records of the Pālas.

The proto-Nāgarī script lingers on in Northern India upto the end of the tenth century as in the Balera grant of Mūlarāja I V.S. 1051,[2] but disappears from the South-Western India before the middle of the ninth century A.D. after which Nāgarī or Devanāgarī prevails there.

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1. I.A., XIX, pl. facing p. 58.
2. E.I., Vol. X, pl. facing p. 78.

CHAPTER 9

NĀGARĪ: NAME: AREA AND PERIOD OF ITS USE

Name:

The name Devanāgarī,[1] generally applied to the script which is now used for writing Hindi all over India, as also Sanskrit, for which local scripts are also sometimes used, is not very old, not withstanding R. Shamshastri's attempt to uphold its antiquity, by suggesting that the Brāhmī itself is derived from Tantric symbols which were called Devanagara - the abode of the gods - and the script derived therefrom was consequently Devanāgarī.[2] However, this name does not occur in any early document. According to Filliczat,[3] the name appears for the first time in the European reports of the seventeenth century. Professor Whitney[4] has mentioned this name in his Sanskrit Grammar and explained it as 'Nāgarī of the gods' or

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1. It is called Bālabodha in Maharashtra (cf. A.B.O.R.I. Vol. XIX, p. 387) and Śāstrīlipi (Gujarati Bhāshāno Itihāsa) p. 82), 1900. A slightly varying form, used in the Kanarese speaking region, is called Nandināgarī.
2. I.A., Vol. XXXV, p. 255.
3. "Paléographie", L'inde Classique, p. 678.
4. Sanskrit Grammar, p. 1 (1879).

TABLE 37

MgO Peak Areas in X-ray Diffractograms of Cement Clinkers Containing MgO from 1.0 to 15.0 per cent, by weight

MgO Content,	α-Al_2O_3 Peak Area			MgO Peak Area							b/a x100	Maximum MgO Peak Area/a x100	Minimum MgO Peak Area/a x100
	(i)	(ii)	Average (a)	(i)	(ii)	(iii)	(iv)	(v)	(vi)	Average (b)			
1.0	220	227	223.5	13	14	15	16	11	15	14.0	6.24	7.15	4.92
2.0	235	235	235.0	24	28	24	28	23	27	25.667	10.92	11.91	9.78
3.0	236	238	237.0	37	34	34	30	32	30	32.833	13.85	15.61	12.66
4.0	232	220	226.0	50	42	41	46	51	48	46.33	20.50	22.56	18.14
5.0	222	235	228.5	54	52	53	55	54	58	54.50	23.85	25.38	22.75
6.0	238	238	238.0	67	64	66	68	66	72	67.16	28.28	30.25	26.89
7.0	239	230	234.5	75	70	80	84	76	72	76.167	32.48	35.82	29.85
8.0	231	232	231.5	92	89	102	96	-	-	94.75	40.93	44.06	38.44
9.0	232	232	232.0	104	100	103	112	-	-	104.75	45.15	48.27	43.10
10.0	238	226	232.0	119	110	110	106	117	110	112.00	48.28	51.29	45.69
12.5	232	235	233.5	155	151	145	148	152	148	148.16	63.45	66.38	62.09
15.0	234	235	234.5	174	182	181	171	178	178	177.33	75.62	77.61	72.92

TABLE 44

X-ray Powder Diffraction Data and Characterisation of Phases present in Autoclaved High-Magnesia Cement without Fly Ash

d (Å)	I*	Probable characterisation
8.80	s	C_3SH
7.30	vw	Anh. Ferrite
5.90	vvw	?
5.60	vw	Hillebrandite (?)
5.05	w (b)	Hydrogarnet (?) + C_3SH
4.90	s	$Ca(OH)_2$
4.80	s	$Mg(OH)_2$ + Hillebrandite (?)
4.28	w (b)	C_3SH + Xonotlite (?)
4.05	m	Hillebrandite (?)
3.80	m	C_3SH
3.65	vw (b)	Xonotlite (?)
3.45	w	Hillebrandite (?)
3.28	s	C_3SH + Hillebrandite (?) + Xonotlite (?)
3.10	s	$Ca(OH)_2$ + Xonotlite (?)
3.02	s (b)	C_3SH + Hillebrandite (?)
2.87	s	C_3SH + Hillebrandite
2.82	s	C_3SH + Hydrogarnet (?) + Hillebrandite (?)
2.78-2.72	s (b)	$Mg(OH)_2$ + Anh. Ferrite + Hillebrandite (?)
2.69	m	Anh. Ferrite
2.62	s	$Ca(OH)_2$ + Anh. Ferrite
2.60	m	Hillebrandite (?)
2.52	w (b)	C_3SH
2.46	m	$Ca(OH)_2$ + C_3SH
2.36	vs	$Mg(OH)_2$ + Hillebrandite (?)
2.32	w(b)	Hydrogarnet (?)
2.29-2.23	w (b)	C_3SH + Hydrogarnet + Hillebrandite (?)
2.18	w	C_3SH
2.11	vw	Unhydrated MgO or CSH gel
2.08	m	C_3SH + Xonotlite (?)
2.02	w (b)	Hydrogarnet (?)
1.95	w (b)	Hillebrandite (?) + Xonotlite
1.92	s	$Ca(OH)_2$
1.90	s	C_3SH
1.88-1.85	w (b)	Hillebrandite (?)
1.82	w (b)	Hillebrandite (?)
1.79	s	$Ca(OH)_2$ + $Mg(OH)_2$
1.76	m (b)	C_3SH
1.71	w (b)	Hydrogarnet (?) + Hillebrandite
1.68	m (b)	$Ca(OH)_2$ + C_3SH
1.65-1.62	w (b)	$Ca(OH)_2$
1.57	s	$Mg(OH)_2$
1.55-1.54	w (b)	$Ca(OH)_2$
1.48	m	$Mg(OH)_2$ + $Ca(OH)_2$

* The intensity scale used is an arbitrary one :

vs = very strong; s = strong; s(b) = strong broad
m = medium; m(b) = medium broad
w = weak; w(b) = weak broad; vw = very weak; vw(b) = very weak broad;
vvw = very very weak

TABLE 45

X-ray Powder Diffraction Data and Characterisation of Phases present in Autoclaved High-Magnesia Cement with Fly Ash

d (Å)	I*	Probable characterisation
11.60	s (b)	Tobermorite
8.80	vw	C_3SH
7.30	vw	Anh. Ferrite
5.90	vvw	?
5.40	s	Mullite
5.05	s	Hydrogarnet + C_3SH
4.80	m	$Mg(OH)_2$
4.28	m (b)	Quartz + C_3SH + Xonotlite (?)
4.23	w	α-C_2SH (?)
3.80	vvw (b)	C_3SH
3.65	vw (b)	Xonotlite (?)
3.55	vw (b)	Mullite + Tobermorite
3.45	vw (b)	Mullite + Hillebrandite (?)
3.35	s (b)	Tobermorite (?) + Quartz
3.08-3.02	s (b)	Tobermorite + Xonotlite
2.97	s (b)	Tobermorite
2.87	w (b)	Mullite + α-C_2SH
2.82	w (b)	Tobermorite
2.78-2.74	w (b)	Anh. Ferrite + Hillebrandite (?)
2.725	vw (b)	Anh. Ferrite + Hillebrandite (?) + $Mg(OH)_2$
2.69	m	Mullite + Anh. Ferrite
2.62	w (b)	$Ca(OH)_2$ (?) + Ferrite
2.60	m	Hillebrandite (?) + α-C_2SH (?)
2.52	m (b)	Mullite + Magnetite + C_3SH + Tobermorite
2.44	w (b)	Quartz + C_3SH + Mullite
2.36	m (b)	$Mg(OH)_2$ + Hillebrandite (?)
2.32	w (b)	Hydrogarnet (?)
2.29	w (b)	Quartz + Mullite
2.25	w (b)	Tobermorite (?)
2.23	w (b)	Quartz + Hillebrandite (?)
2.18	w (b)	Mullite + Tobermorite
2.13	w (b)	Unhydrated MgO (?) + Tobermorite (?) + $C_3S.H$ (?)
2.11	s	Quartz + Mullite
2.00	m (b)	Quartz + Hydrogarnet (?) + Xonotlite (?) + Tobermorite
1.97	m (b)	Hillebrandite + Xonotlite (?) + Tobermorite
1.93	w	$Ca(OH)_2$ (?)
1.90	w (b)	C_3SH + Mullite
1.84-1.82	m (b)	Mullite + Quartz + Hillebrandite + Tobermorite
1.79	w (b)	$Ca(OH)_2$ (?) + $Mg(OH)_2$
1.76	m (b)	C_3SH + Tobermorite
1.71	w (b)	Hydrogarnet + Hillebrandite (?)
1.69	w (b)	$Ca(OH)_2$ (?) + C_3SH + Mullite + Tobermorite
1.65-1.625	w (b)	$Ca(OH)_2$ (?)
1.57	w (b)	$Mg(OH)_2$
1.55-1.54	w (b)	$Ca(OH)_2$ (?) + $Mg(OH)_2$ + Quartz
1.53	vvw	Mullite
1.49	s (d)	Tobermorite (?) + $Mg(OH)_2$ + MgO + $C_3S.H$ + $Ca(OH)_2$ (?)
1.37	m	Tobermorite (?) + $Mg(OH)_2$

* The intensity scale used is an arbitrary one :

s = strong; s(b) = strong broad; s(d) = strong doublet
m = medium; m(b) = medium broad
w = weak; w(b) = weak broad; vw = very weak; vw(b) = very weak broad;
vvw = very very weak; vvw(b) = very very weak broad

PLATE II.B

	NA	PA	PHA	BA	BHA	MA	YA	RA	LA	VA	ŚA	SHA	SA	HA	Med. ū	Med. i	Med. ī	Med. u	Med. ū	Med. ṛ	Med. e	Med. ai	Med. o	Med. au	Anusvāra	Visarga	Sup. r	Sub. r	Conjuncts		
1. RE Girnar											–	–								–				–		–					
2. RE Kalsi								–												–		–		–	–	–	–				
3,4 RI Dhauli, Jaugada								–			–	–								–		–		–	–	–	–				
5. RE I Maud. 6. SRE Jaugada								–			–	–								–		–		–	–	–	–				
8. RI Sopārā (VIII, IX)											–	–								–		–		–	–	–	–				
9. MRI Rūpnāth			–		–			–			–	–								–		–		–	–	–	–				
10. MRE Rupnāth											–	–					–		–	–		–		–	–	–	–				
11. MRE Gujarra					–						–	–							–	–		–		–	–	–	–				
12 MRE Sahasram 13 MRE Ahraura			–					–			–	–							–	–		–		–	–	–	–				
14 Barabar H. Cave Inscr.			–	–				–			–	–							–	–		–		–	–	–	–				
15 MRE Maski																	–			–		–		–	–	–	–				
16. MRE Brahmagiri 17. MRE Siddapur 18. MRE J. Rameśvara												–								–		–		–	–	–	–				
19. PE Delhi Topra								–			–	–								–		–		–	–	–	–				
20. PE Delhi Mirath								–			–	–								–		–		–	–	–	–				
21. PE L. Araraj 22. PE L. Nandangadh 23 PE Rampurwa								–			–	–								–		–		–	–	–	–				
24. PE Allahabad Kauśāmbi								–			–	–								–		–		–	–	–	–				
25. MPE Queen's 26. MPI Kauśāmbi			–					–			–	–								–		–		–	–	–	–				
27. MPE Sarnath				–				–			–	–								–		–		–	–	–	–				
28. MPE Sanchi			–	–							–	–								–		–		–	–	–	–				
29. MPE Rummindei 30. MPE Nigliva			–					–			–	–								–		–		–	–	–	–				

ASOKAN INSCRIPTIONS

PLATE IIA

	A	Ā	I	Ī	U	Ū	Ṛ	E	AI	O	AU	KA	KHA	GA	GHA	ṄA	CHA	CHHA	JA	JHA	ÑA	ṬA	ṬHA	ḌA	ḌHA	NA	TA	THA	DA	DHA
1. RE Girnar	𐨀 𐨀	𐨁	𐨂 𐨂	–	𐨃 𐨃	–	–	𐨏 𐨏	–	𐨆	–	+	𐨑 𐨑	𐨒 𐨒	𐨓	𐨔	–	𐨕	𐨖	𐨗 𐨗	𐨘 𐨘	–	𐨙	–	𐨚	𐨛	𐨜	𐨝	𐨞	𐨟
2. RE Kalsi	𐨀 𐨀	𐨁	𐨂 𐨂	–	𐨃 𐨃	–	–	𐨏 𐨏	–	𐨆	–	+ +	𐨑 𐨑	𐨒 𐨒	𐨓	𐨔	–	𐨕	𐨖	𐨗 𐨗	𐨘 𐨘	–	𐨙	𐨚	𐨛 (ḍh)	𐨜	–	𐨝 𐨝	𐨞	𐨟
3,4. RE Dhauli RE Jaugada	𐨀 𐨀	𐨁	𐨂	–	𐨃 𐨃	–	–	𐨐	–	𐨇	–	+ +	𐨑 𐨑	𐨒 Jau. gada	𐨓 𐨓	𐨔	𐨕 𐨕	𐨖	𐨗 𐨗	𐨘 𐨘	–	𐨙	𐨚	𐨛	𐨜	–	𐨝	𐨞	𐨟
5,6. SRE Dhauli SRE Jaugada	𐨀 𐨀	𐨁	𐨂	–	𐨃	–	–	𐨏 𐨏	–	–	–	+ +	𐨑	𐨒	𐨓	𐨔	𐨕	𐨖	𐨗	𐨘 𐨘	𐨙	𐨚	𐨛	𐨜		𐨝	𐨞	𐨟	𐨠 𐨠
7,8. RE Sopara (VIII, IX)	𐨀	𐨁	𐨂	–	𐨃	–	–	𐨏	–	–	–	+	𐨑 (Khu)	𐨒	–	–	𐨕	–	𐨖 (jā)	–	–	–	𐨙	–	–	–	𐨜	𐨝	𐨞	𐨟
9. MRE Basrat	indistinct	𐨁	–	–	–	–	–	𐨏	–	–	–	+	–	𐨒	𐨓	–	–	–	𐨖	–	–	–	𐨙	𐨚	𐨛	–	𐨜	𐨝	𐨞	–
10. MRE Rupnath	𐨀	𐨁	𐨂	–	𐨃	–	–	𐨏	–	–	–	+	𐨑	𐨒	–	–	–	𐨕	𐨖	–	–	𐨗	𐨙	𐨚	𐨛	–	𐨜	𐨝	𐨞	𐨟
11. MRE Gujarra	𐨀	𐨁	𐨂	–	𐨃	–	–	𐨏	–	–	–	+	𐨑	𐨒	𐨓	–	–	𐨕	𐨖	𐨗	–	–	𐨗	𐨙	𐨚	𐨛	𐨜	𐨝	𐨞	𐨠
12,13. MRE Sahasram MRE Ahraura	𐨀 𐨀	𐨁	𐨂	–	𐨃	–	–	𐨏	–	𐨇 Ahraura		+	𐨑 (Khu)	𐨒	–	–	𐨕	𐨖	𐨗 (jā)	–	–	𐨗 (ṭā)	𐨙	𐨚	𐨛	𐨜	–	𐨝	𐨞	𐨟
14. Barabar Hill Cave Inscs.	–	–	𐨂	–	–	–	–	–	–	–	–	+	𐨑	𐨒	𐨓	–	–	–	–			–	–	𐨛	–	–	–	𐨝	𐨞	–
15. MRE Maski	𐨀 𐨀	–	𐨂 𐨂	–	𐨃	–	–	–	–	–	–	+	𐨑	𐨒	𐨓	–	𐨕	𐨖	𐨗	–	–	–	𐨙	𐨚	𐨛	–	𐨜	–	𐨝	𐨞	𐨠
16,17,18. MRE Brahmagiri, Siddhapur, J. Rame/	𐨀 𐨀	𐨁 𐨁	𐨂	–	𐨃	–	–	𐨏	–	–	–	+ + Bra.	𐨑	𐨒 𐨒	𐨓	𐨔	–	𐨕	𐨖	𐨗	–	𐨘	𐨙	𐨚	𐨛	𐨜	𐨝	𐨞	𐨟	𐨠
19. PE Delhi Topra	𐨀 𐨀	𐨁	𐨂 𐨂	–	𐨃	–	–	𐨐	–	𐨇	–	+	𐨑 𐨑	𐨒 𐨒	𐨓	𐨔	–	𐨕	𐨖	𐨗 𐨗	𐨘	–	𐨙	𐨚	𐨛	𐨜	𐨜	𐨝 𐨝	𐨞	𐨠 PEV
20. PE Delhi Mirath	𐨀 𐨀	𐨁	𐨂	–	𐨃	–	–	𐨏	–	–	–	+ +	𐨑	𐨒	𐨓	𐨔	–	𐨕	𐨖	𐨘	–	𐨙	𐨚	𐨛	𐨜	–	𐨝	𐨞	𐨟	
21,22,23. PE Lauriya Araraj, L. Nandangadh, Rampurva	𐨀 𐨀	𐨁	𐨂	–	𐨃	–	–	𐨏	–	𐨇	–	+ +	𐨑 𐨑	𐨒	𐨓	𐨔 Ran.	–	𐨕	𐨖	𐨗 Ran.	𐨘	–	𐨙	𐨚	𐨛	𐨜	–	𐨝	𐨞	𐨟	
24. PE Allahbad Kośāmbi	𐨀 𐨀	𐨁	𐨂	–	𐨃	–	–	𐨐	–	𐨇	–	+ +	𐨑	𐨒	–	–	𐨕	𐨖	𐨗	𐨘	–	𐨙	𐨚	𐨛	𐨜	–	𐨝	𐨞	𐨟	
25,26. MPE Queen's, Kośāmbi	𐨀 𐨀	𐨁	–	–	–	–	–	𐨐	–	𐨇	–	+ +	𐨑 Kau. kana	𐨒	𐨓	–	𐨕	𐨖	–	–	–	𐨙	𐨚	𐨛 (dhi) Queen's	–	–	𐨜	–	𐨝 Queen's	𐨞 (dhi) Ku
27. MPE Sarnath	𐨀 𐨀	𐨁	𐨂 𐨂	–	𐨃	–	–	𐨏	–	𐨇	–	+	𐨑	–	𐨓	–	𐨕	𐨖	𐨗 (jā)	–	–	𐨙	–	–	–	–	𐨜	𐨝	𐨞	𐨟
28. MPE Sanchi	𐨀	–	𐨂	–	–	–	–	–	–	𐨇	–	+ +	𐨑	𐨒	𐨓	–	𐨕	𐨖	–	–	–	–	–	–	–	–	𐨜	𐨝	𐨞	–
29. MPE Rummindei, 30 Nigliva	𐨀 𐨀	𐨁	–	–	𐨃	–	–	–	–	–	–	+	–	𐨒	–	–	𐨕	–	𐨗 𐨗	–	–	𐨙	𐨚	𐨛	𐨜	–	𐨜	𐨝	𐨞	𐨟

PLATE V A

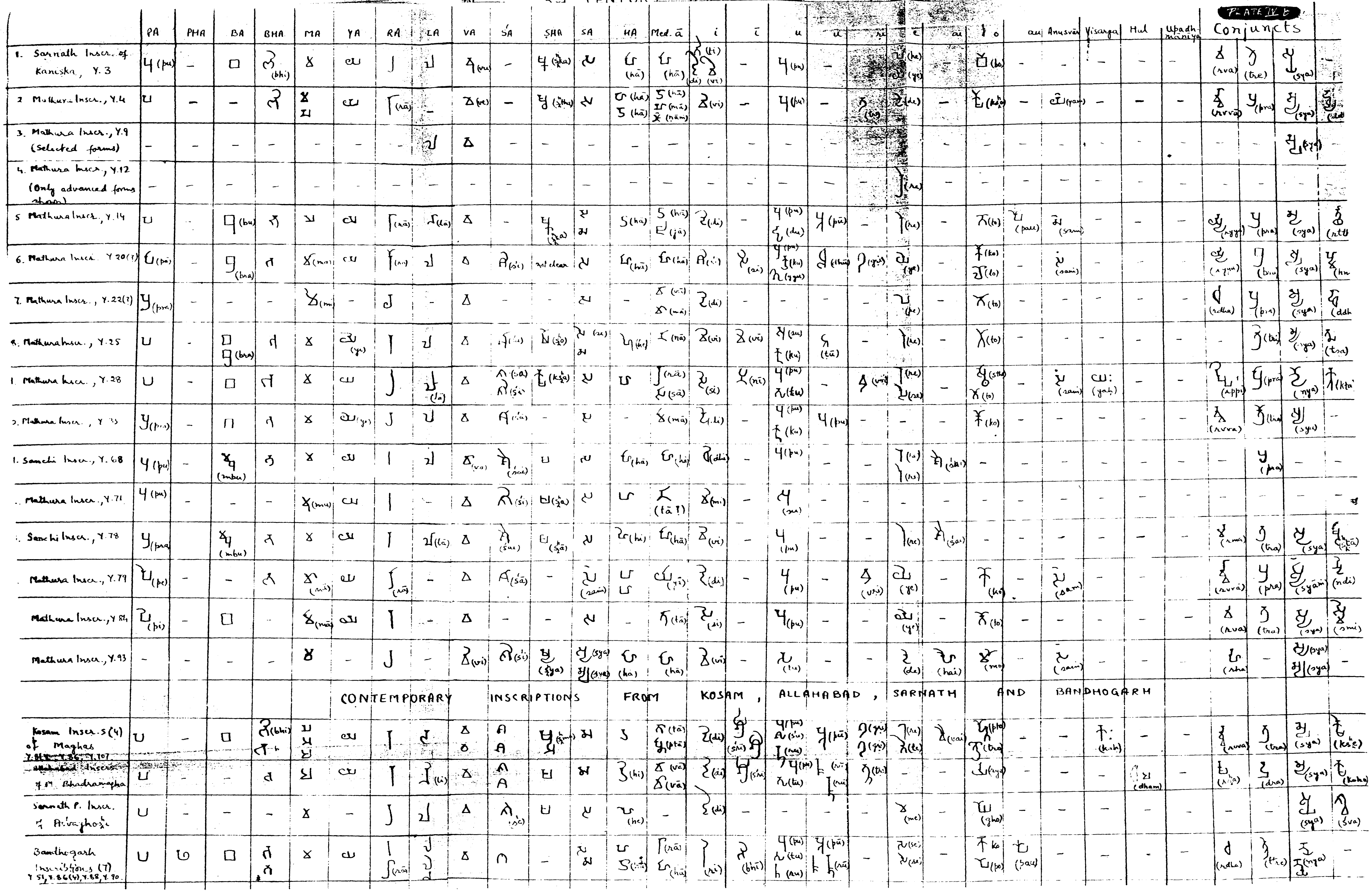


PLATE IV E
3rd CENTURY A.D.
PA
PHA
BA
BHA
MA
YA
RA
LA
VA
ŚA
ṢHA
SA
HA
Med. ā
i
ī
u
ū
ṛ
e
ai
o
au
Anusvār
Visarga
Hal
Upadhmānīya
Conjuncts
1. Sarnath Inscr. of Kaniska, Y. 3
2. Mathura Inscr., Y. 4
3. Mathura Inscr., Y. 9 (Selected forms)
4. Mathura Inscr., Y. 12 (Only advanced forms shown)
5. Mathura Inscr., Y. 14
6. Mathura Inscr. Y. 20(?)
7. Mathura Inscr., Y. 22(?)
8. Mathura Inscr., Y. 25
1. Mathura Inscr., Y. 28
Mathura Inscr., Y. 35
1. Sanchi Inscr., Y. 68
Mathura Inscr., Y. 71
Sanchi Inscr., Y. 78
Mathura Inscr., Y. 79
Mathura Inscr., Y. 84
Mathura Inscr., Y. 93
CONTEMPORARY INSCRIPTIONS FROM KOSAM, ALLAHABAD, SARNATH AND BANDHOGARH
Kosam Inscr. S(?) of Maghas
of M. Bhadramagha
Sarnath P. Inscr. of Aśvaghoṣa
Bandhogarh Inscriptions (?) Y. 51, Y. 86(?), Y. 88, Y. 90.
not clear

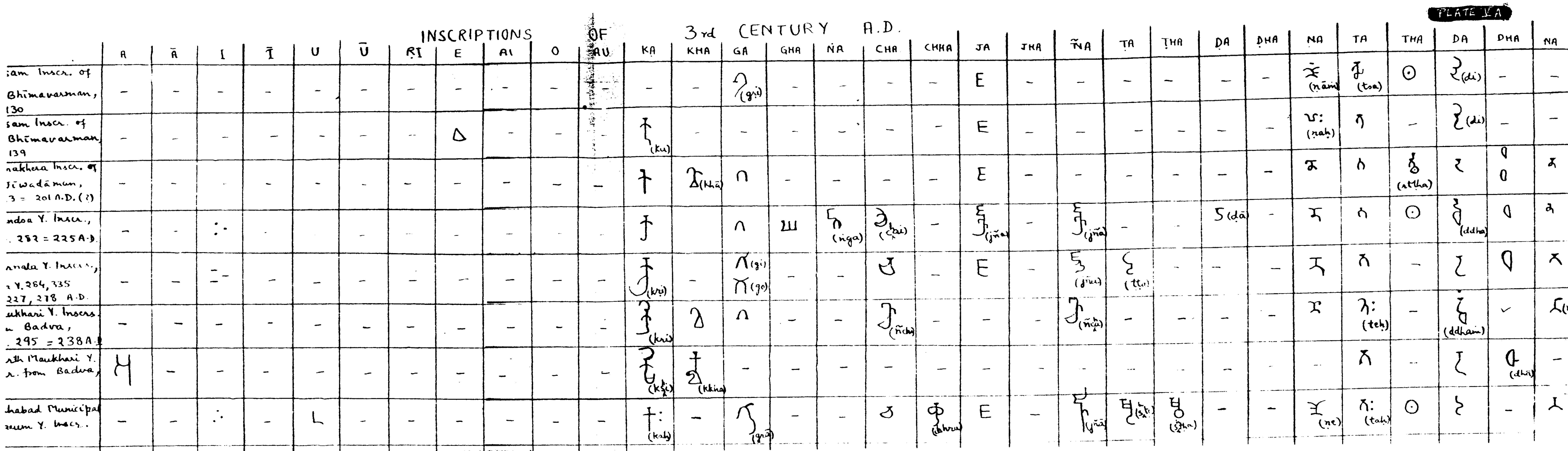


PLATE V A
INSCRIPTIONS OF 3rd CENTURY A.D.
A Ā I Ī U Ū ṚI E AI O AU KA KHA GA GHA ṄA CHA CHHA JA JHA ÑA ṬA ṬHA ḌA ḌHA ṆA TA THA DA DHA NA
…sam Inscr. of Bhīmavarman, 130
…sam Inscr. of Bhīmavarman, 139
…nakhera Inscr. of Jīwadāman, …3 = 201 A.D. (?)
…ndsa Y. Inscr., …282 = 225 A.D.
…anala Y. Inscr., …Y. 284, 335 …227, 278 A.D.
…ukhari Y. Inscrs. …Badva, …295 = 238 A.D.
…th Maukhari Y. …r. from Badva,
…habad Municipal …seum Y. Inscr.

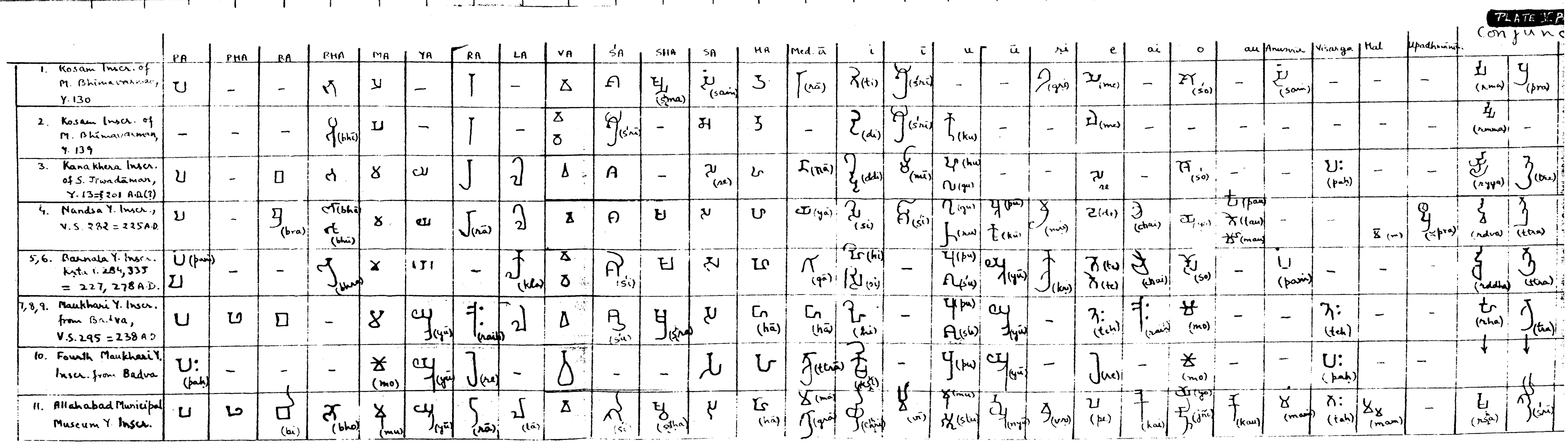



PLATE V B
Conjunc…
PA PHA BA BHA MA YA RA LA VA ŚA SHA SA HA Med. ā i ī u ū ṛi e ai o au Anusvāra Visarga Hal Upadhmānīya
1. Kosam Inscr. of M. Bhīmavarman, Y. 130
2. Kosam Inscr. of M. Bhīmavarman, Y. 139
3. Kanakhera Inscr. of S. Jīwadāman, Y. 13 = 201 A.D. (?)
4. Nandsa Y. Inscr., V.S. 282 = 225 A.D.
5, 6. Barnala Y. Inscr. Kṛta 284, 335 = 227, 278 A.D.
7, 8, 9. Maukhari Y. Inscr. from Badva, V.S. 295 = 238 A.D.
10. Fourth Maukhari Y. Inscr. from Badva
11. Allahabad Municipal Museum Y. Inscr.

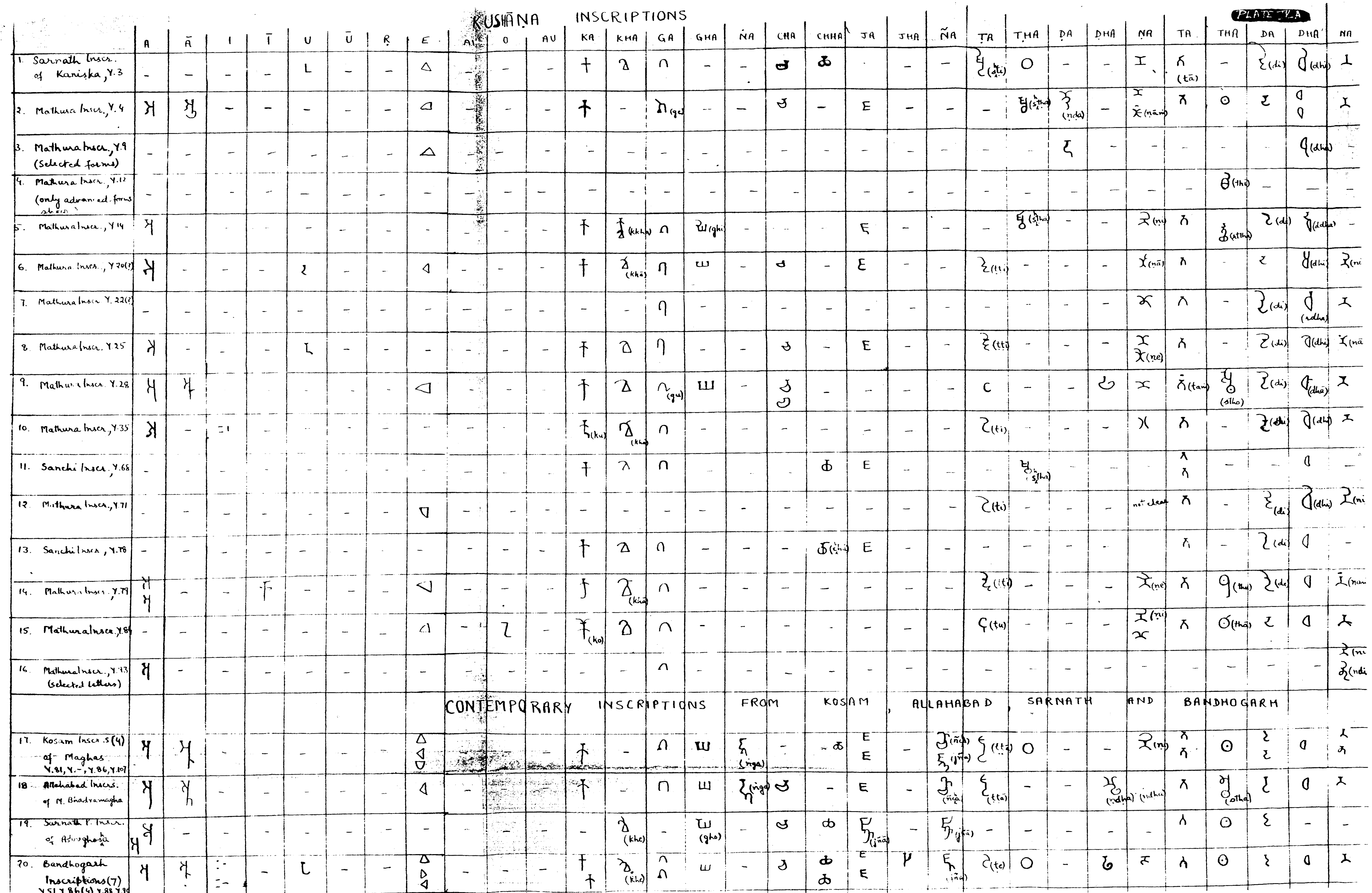


PLATE VI A
KUSHĀṆA INSCRIPTIONS
A Ā I Ī U Ū Ṛ E AI O AU KA KHA GA GHA ṄA CHA CHHA JA JHA ÑA ṬA ṬHA ḌA ḌHA ṆA TA THA DA DHA NA
1. Sarnath Inscr. of Kaniṣka, Y.3
2. Mathura Inscr., Y.4
3. Mathura Inscr., Y.9 (Selected forms)
4. Mathura Inscr., Y.12 (only advanced forms shown)
5. Mathura Inscr., Y.14
6. Mathura Inscr., Y.20(?)
7. Mathura Inscr. Y.22(?)
8. Mathura Inscr. Y.25
9. Mathura Inscr. Y.28
10. Mathura Inscr., Y.35
11. Sanchi Inscr., Y.68
12. Mathura Inscr., Y.71
13. Sanchi Inscr., Y.78
14. Mathura Inscr., Y.79
15. Mathura Inscr. Y.8?
16. Mathura Inscr., Y.93 (selected letters)
CONTEMPORARY INSCRIPTIONS FROM KOSAM, ALLAHABAD, SARNATH AND BANDHOGARH
17. Kosam Inscr. 5(4) of Maghas Y.81, Y.–, Y.86, Y.107
18. Allahabad Inscr. of M. Bhadramagha
19. Sarnath P. Inscr. of Aśvaghoṣa
20. Bandhogarh Inscriptions (7) Y.51, Y.86(4), Y.88, Y.9?

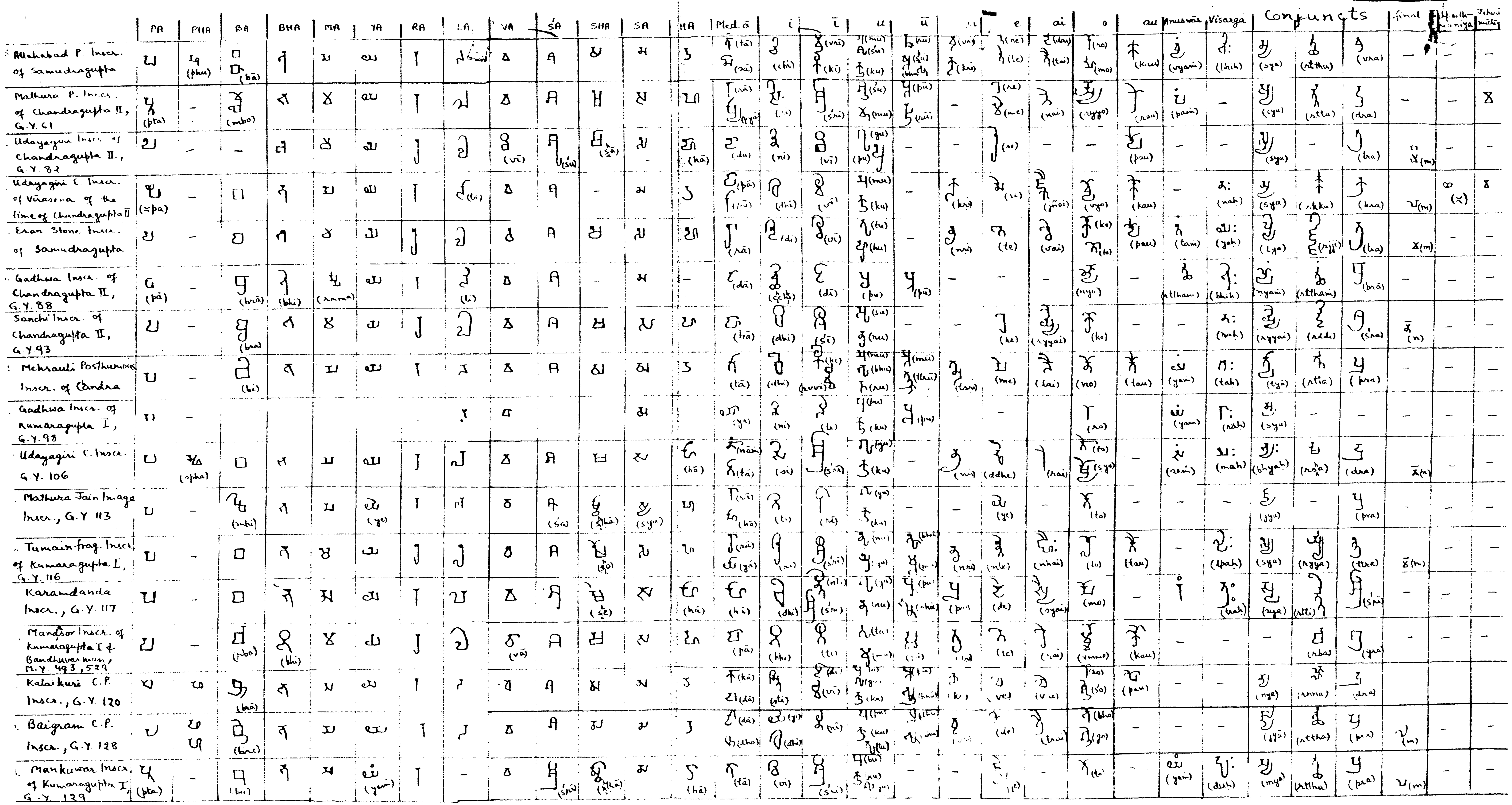
PLATE VI D

	PA	PHA	BA	BHA	MA	YA	RA	LA	VA	ṢA	SHA	SA	HA	Med. ā	i	ī	u	ū	ṛi	e	ai	o	au	Anusvāra	Visarga	Conjuncts				
Sanchi Stone Inscr. G.Y. 131																														
Mathura stone Image Inscr., G.Y. 135																														
Junagadh R. Inscr. of Skandagupta, G.Y. 136-137, 138																														
Bhitari P. Inscr. of Skandagupta																														
Kahaum P. Inscr. of Skandagupta, G.Y. 141																														
Indore C.P. Inscr. of Skandagupta, G.Y. 146																														
Sarnath Stone Inscr. of Budhagupta, G.Y. 157																														
Pahārpur C.P. grant, G.Y. 159																														
Khoh Plates of M. Hastin, G.Y. 163																														
Eran P. Inscr. of Budhagupta, G.Y. 165																														
Eran Posthumous P. Inscr. of Gopa rāja, G.Y. 191																														
Sohawal C.P. of Sarvanātha, G.Y. 191																														
Majhagawan Pls. of Hastin, G.Y. 191																														
Bhumara Pls of Hastin & Sarvanātha, G.Y. 191																														
Kan. tala: C.P Inscr. of Jaya-nātha.																														

SELECTED INSCRIPTIONS OF GUPTA PERIOD CONTD.

	A	Ā	I	Ī	U	Ū	Ṛ	E	AI	O	AU	KA	KHA	GA	GHA	ṄA	CHA	CHHA	JA	JHA	ÑA	ṬA	ṬHA	ḌA	ḌHA	ṆA	TA	THA	DA	DHA
Sanchi Stone Insch., G.Y. 131			-	-		-	-		-	-	-					-		-		-	-		-	-					
Mathura stone Image Insch. G.Y. 135		-	-	-	-	-	-	-	-	-	-			-	-	-		-		-		-	-	-					
Junagadh rock Insc. of Skandagupta, G.Y. 136, 137, 138			-	-	-	-	-		-	-	-				-	-		-		-	-	-	-	-					
Bhitari P. Insc. of Skandagupta		-		-		-	-	-	-	-	-		-							-			-	-					
Kahaum P. Insc. of Skandagupta, G.Y. 141	-	-	-	-	-	-	-	-	-	-	-			-	-	-		-		-				-					
Indore C.P. Insc. of Skandagupta, G.Y. 146	-			-	-	-	-	-	-	-	-		-		-					-				-	-				
Sarnath stone Insc. of Budhagupta, G.Y. 157	-	-		-	-	-	-	-	-	-	-	(kū)	-		-	-		-	-	-	-	-	-	-	-					
Pahāṛpur C.P. grant, G.Y 159	-		-	-		-	-		-	-	-		(khā)		-			-		-	-		-	-						
Khoh Plates of M. Hastin, G.Y. 163			-	-		-	-	-	-	-	-		-		(ghā)			-	-	-	-	-	-	-	-					
Eran P. Insc. of Budhagupta, G.Y. 165			-	-	-	-	-	-	-	-	-		-	-	-			-	-	-	-	-	-	-	-					
Eran Posthumous P. Insc. of Goparaja, G.Y. 171	-	-	-	-	-	-	-	-	-	-	-			(khyu)	-			-	-	-	-	-	-	-	-					
Sohawal C.P. of Sarvanatha, G.Y. 181		-	-	-		-	-		-	-	-																			
Majhagawan Plates of Hasti, G.Y. 191			-	-	-	-	-		-	-	-																			
Bhumara Plates of Hastin & Sarvanath, G.Y. 191				-		-	-	-	-	-	-																			
Kanitalai C.P. Insc. of Jayanatha	-		-	-		-	-	-	-		-		(khī)																	

PLATE VI β


PA
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VA
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SHA
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Med. ā
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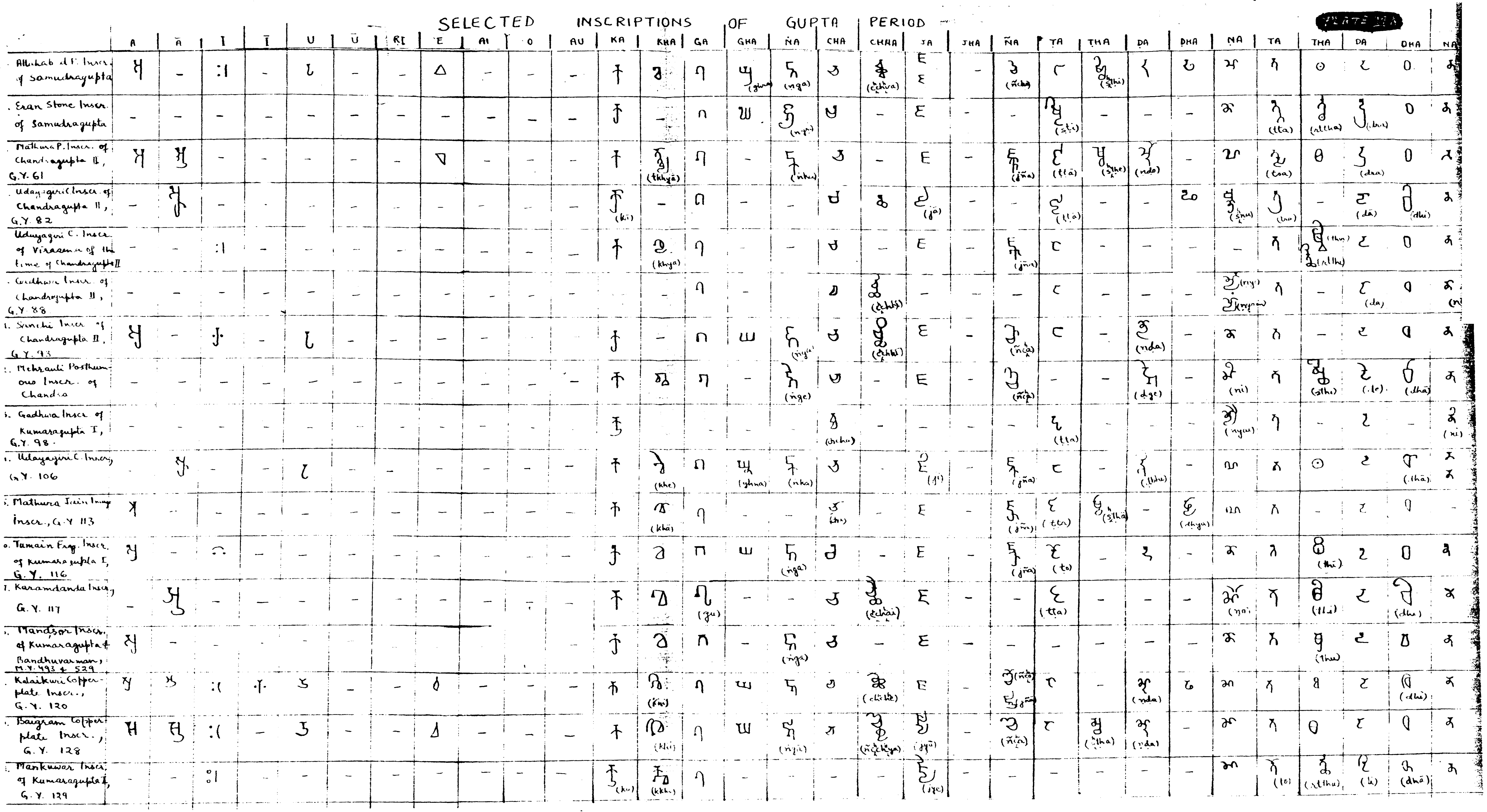
au
Anusvāra
Visarga
Conjuncts
final
Upadhmānīya
Jihvāmūlīya
Allahabad P. Insc. of Samudragupta
Mathura P. Insc. of Chandragupta II, G.Y. 61
Udayagiri Insc. of Chandragupta II, G.Y. 82
Udayagiri C. Insc. of Vīrasena of the time of Chandragupta II
Eran Stone Insc. of Samudragupta
Gadhwa Insc. of Chandragupta II, G.Y. 88
Sanchi Insc. of Chandragupta II, G.Y. 93
Mehrauli Posthumous Insc. of Candra
Gadhwa Insc. of Kumaragupta I, G.Y. 98
Udayagiri C. Insc. G.Y. 106
Mathura Jain Image Insc., G.Y. 113
Tumain frag. Insc. of Kumaragupta I, G.Y. 116
Karamdanda Insc., G.Y. 117
Mandsor Insc. of Kumaragupta I & Bandhuvarman, M.Y. 493, 529
Kalaikuri C.P. Insc., G.Y. 120
Baigram C.P. Insc., G.Y. 128
Mankuwar Insc. of Kumaragupta I, G.Y. 129


SELECTED INSCRIPTIONS OF GUPTA PERIOD
A | Ā | I | Ī | U | Ū | RI | E | AI | O | AU | KA | KHA | GA | GHA | ṄA | CHA | CHHA | JA | JHA | ÑA | ṬA | ṬHA | ḌA | ḌHA | ṆA | TA | THA | DA | DHA | NA
Allahabad P. Inscr. of Samudragupta
Eran Stone Inscr. of Samudragupta
Mathura P. Inscr. of Chandragupta II, G.Y. 61
Udayagiri C. Inscr. of Chandragupta II, G.Y. 82
Udayagiri C. Inscr. of Virasena of the time of Chandragupta II
Gadhwa Inscr. of Chandragupta II, G.Y. 88
Sanchi Inscr. of Chandragupta II, G.Y. 93
Mehrauli Posthumous Inscr. of Chandra
Gadhwa Inscr. of Kumaragupta I, G.Y. 98
Udayagiri C. Inscr., G.Y. 106
Mathura Jain Image Inscr., G.Y. 113
Tumain Frag. Inscr. of Kumaragupta I, G.Y. 116
Karamdanda Inscr., G.Y. 117
Mandsor Inscr. of Kumaragupta & Bandhuvarman, M.Y. 493 & 529
Kalaikuri Copper-plate Inscr., G.Y. 120
Baigram Copper-plate Inscr., G.Y. 128
Mankuwar Inscr. of Kumaragupta I, G.Y. 129

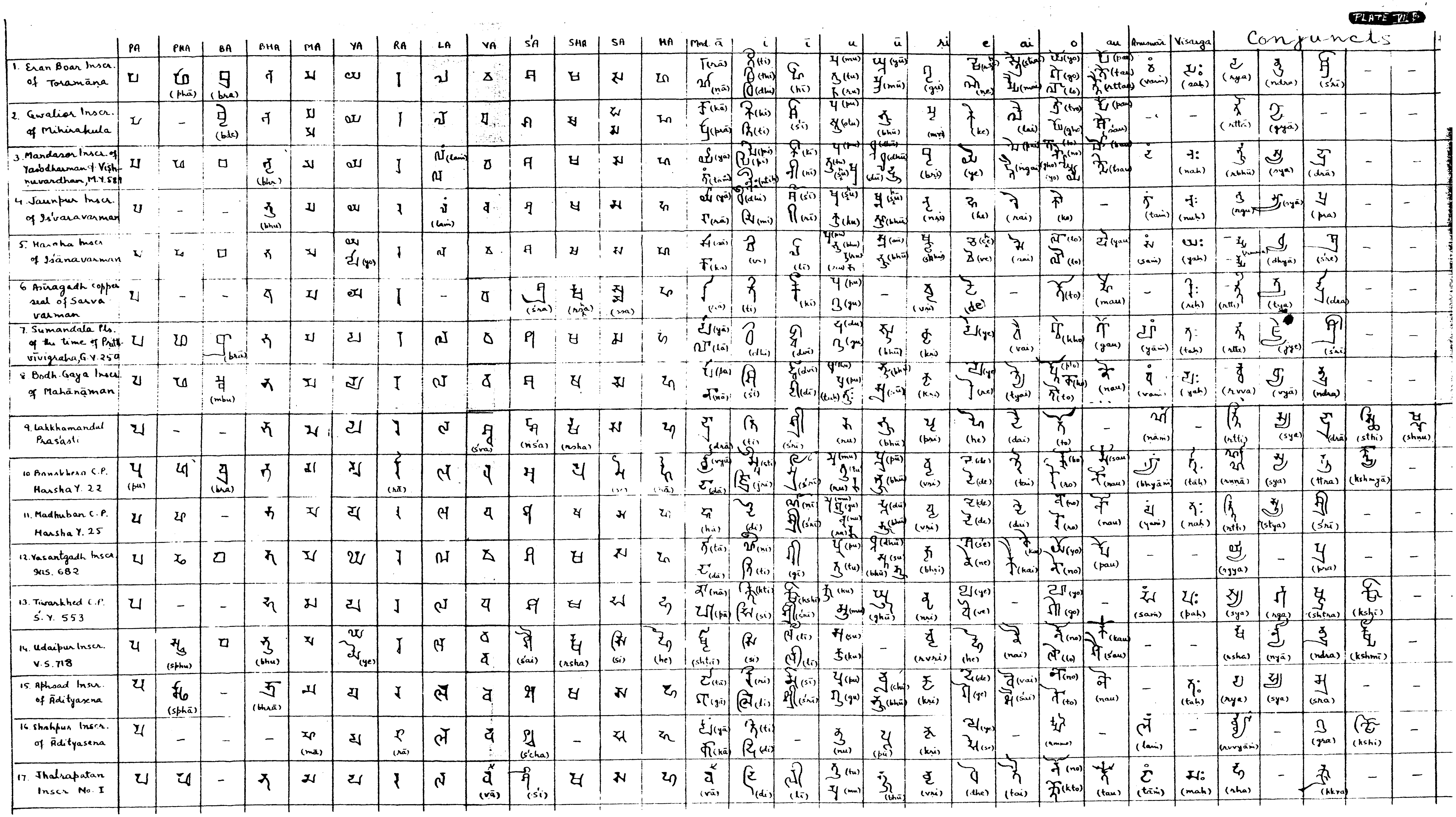


PLATE VI.B
PA
PHA
BA
BHA
MA
YA
RA
LA
VA
ŚA
SHA
SA
HA
Md. ā
i
ī
u
ū
ṛi
e
ai
o
au
Anusvāra
Visarga
Conjuncts
1. Eran Boar Insc. of Toramāṇa
2. Gwalior Inscr. of Mihirakula
3. Mandasor Inscr. of Yaśodharman & Vishnuvardhan, M.Y. 589
4. Jaunpur Inscr. of Iśvaravarman
5. Haraha Inscr. of Iśānavarman
6. Asirgadh copper seal of Sarvavarman
7. Sumandala Pls. of the time of Prithvivigraha, G.Y. 250
8. Bodh-Gaya Inscr. of Mahānāman
9. Lakkhamandal Praśasti
10. Banskhera C.P. Harsha Y. 22
11. Madhuban C.P. Harsha Y. 25
12. Vasantgadh Inscr. Vs. 682
13. Tiwarkhed C.P. Ś. Y. 553
14. Udaipur Inscr. V.S. 718
15. Aphsad Inscr. of Ādityasena
16. Shahpur Inscr. of Ādityasena
17. Jhalrapatan Inscr. No. I

PLATE VI A

POST GUPTA INSCRIPTIONS

	A	Ā	I	Ī	U	Ū	RI	E	AI	O	AU	KA	KHA	GA	GHA	ṄA	CHA	CHHA	JA	JHA	ÑA	ṬA	ṬHA	ḌA	ḌHA	NA	TA	THA	DA	DHA	NA
1. Eran Boar Inscr. of Toramāṇa		–		–	–	–	–		–	–	–		–			–		(chchha)		–	–	–	–	–	–			(thi)			
2. Gwalior Inscr. of Mihirakula		–	–	–		–	–	–	–	–	–	(ki)	(khe)		–	(ṅgo)		–		–	–	(ṭaḥ)	–	(ṇḍa)	–			(thā)			
3. Mandasor Inscr. of Yaśodharman & Viṣṇuvardhan M.Y. 589				–		–	–		–	–					(gho)	(ṅgaḥ)		(chchha)		–	(ñchha)		(ṭṭhai)	(ḍḍi)							
4. Jaunpur Inscr. of Iśvaravarman	–	–	–	–	–	–	–	–	–	–	–	(khi)				(ṅgā)		–	(jām)	–	–				(dgo)	–		–			
5. Harihar Inscr. of Iśānavarman	–			–		–	–		–	–	–				(ghā)	(ṅki)		(chchha)		–	(ñja)		(ṭṭhaṁ)	(ḍi)							
6. Asiragadh copper seal of Sarva-varman	–	–		–		–	–	–	–	–	–	(kā)		(gu)	–	–		–		–	–	(ṭṭā)	–	–	–	(ṇṇā)		–	(dā)		–
7. Sumandala Plate of the time of Pṛthvi-vigraha, G.Y 250	–		–	–		–	–		–	–	–					(ṅga)		–	(jaḥ)	–	(ñchā)				–			(ṭhā) (thi)			
8. Bodh-Gaya Inscr. of Mahānāman, Y. 269	–		–	–		–	–		–	–	–				–	(ṅga)		(chchha)		–	–	(ṭi)	–	(ḍi)	(ḍhya)	(ṇḍe)			(ḍi)		
9. Lakkhumandal Praśasti				–		–	–			–	–	–	(khyā)			(ṅka)		(chchhi)	(jñāṁ)	–	–		–	–		(ṇāṁ)					
10. Ganskhera C.P. Harsha Y. 22		–		–		–	–		–	–	–	(ko)	(khā)	(gu)	–	(ṅkra)		(chchhi)		(jjha)	(ñcha)	(ṭā)	(shṭha)	(ḍi)	–	(ṇi)			(ḍā)	(dhi)	(ṇu)
11. Madhuban C.P. Harsha Y. 25		–		–		–	–	–	–	–	–		(khaḥ)		–	(ṅgaḥ)		(chchhā)		(jjhi)	–		–	(ṇḍaḥ)	–	(ṇe)		(ṭho)			
12. Vasantgadh Inscr. Sam. 682		–	–	–	–	–	–		–	–	–		(khi)		(jhaa)	(ṅja)		–		–	–		(shṭhu)	(ḍḍa)	–			–			
13. Tiwarkhed C.P. S. Y. 553				–		–	–	–	–	–	–		(khi)		–	–		(chchha)		–	(ñcha)		–	(ṇḍa)	–			(sthi)		(dh.tha)	
14. Udaipur Inscr. V.S. 718		–		–	–	–	–	–	–	–	–				(ghā)	(ṅga)	(chi)	(chchhi)		–	–		(ṇṭha)	(ṇḍa)	–	(ṇā)					
15. Aphsad Inscr. of Ādityasena				–		–	–	–	–	–	–					(ṅka)	–	(chchha)		–	–		(thi)	(dā)				(thā)			
16. Shahpur Inscr. of Ādityasena		–	–	–	–	–	–	–	–	–	–	(kā)		(gya)	–	–		–	–	–	–	–	–	–				–	(di)	(dhi)	(ndra)
17. Jhalrapatan Inscr. No: I												(xka)		(gā)					(jā)			(ṭāṁ)				(ṇe)			(dhe)		

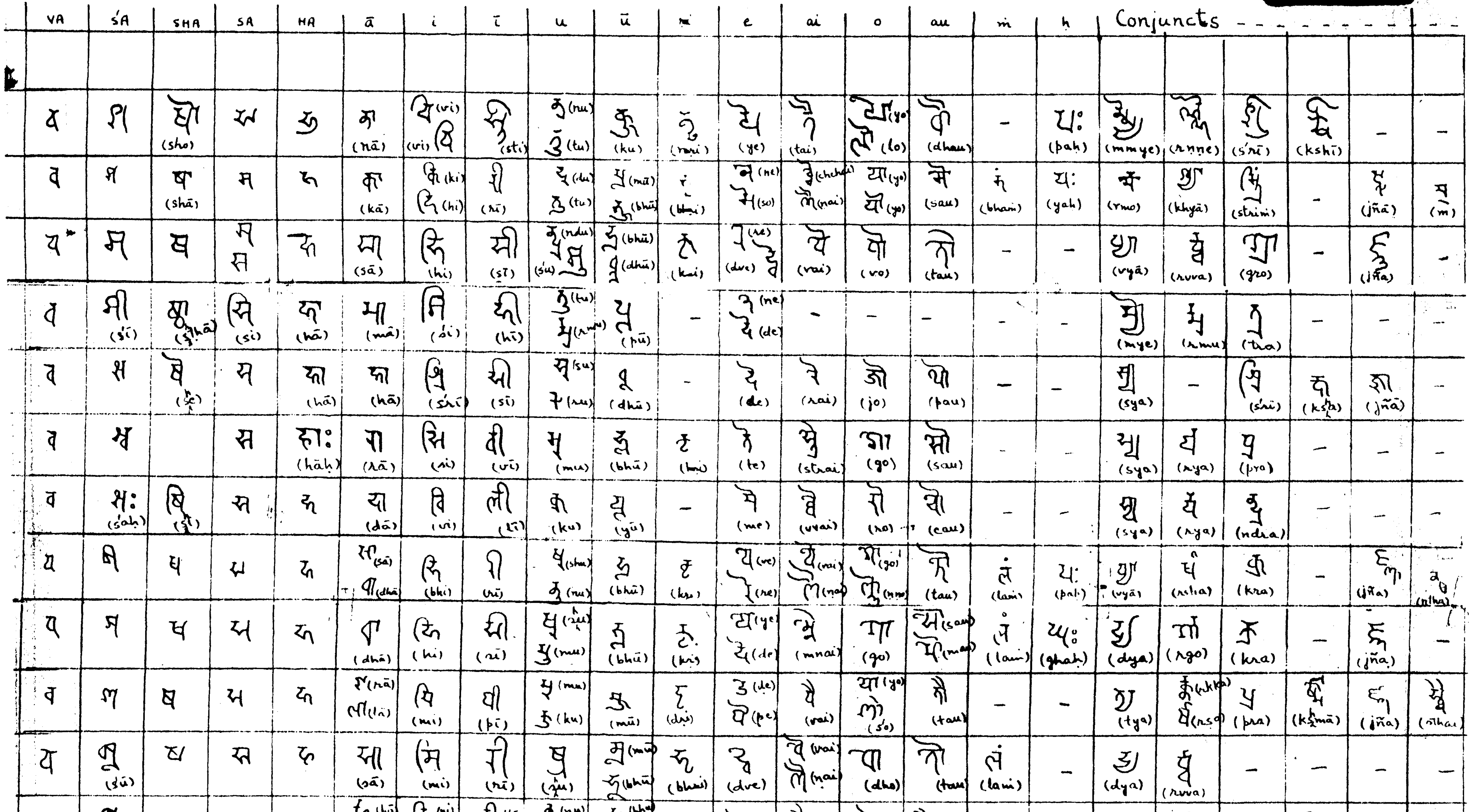
PROTO-NĀGARĪ INSCRIPTIONS

PLATE VIII A

AI	O	AU	KA	KHA	GA	GHA	ṄA	CHA	CHHA	JA	JHA	ÑA	ṬA	ṬHA	ḌA	ḌHA	NA	TA	THA	DA	DHA	NA
Daddasya)																						
-	-	-	(ṅka)	(khi)	(gā)	(ghā)	(ṅka)	(chchai)	(chchhi)	(jo)	-	(ñcha)	(ṭā)	-	-	-			-		(dhi)	
-	-	-				(gho)	(ṅga)		(chchha)	(jā) (jo)	-	-		-	(nda)	-			(ṭhā)			
-	-	-		(kho)		(ṅgha)	(ṅgi)		(chchhi)		-	-	(ṭā)	(shṭha)					(ṭhā)	(ḍha)		
-	-	-		(khaḥ)	(gai)	-	(riśa)		-	(j')	-	(ñca)	-	(ṣṭhā)	-	-			-	(ḍaḥ)	(ḍhi)	
-	-	-	-	(khi)	(gā)		-		(chchhā)	(jai)	-	(ñja)	(ṭhā)	(ṭhā)	(nda)	-			-			
-	-	-									-	-	(ṭhā)	-		-	(ṇā)		(ṭhā)		(ḍhā)	
-	-	-		(khi)	(go)	-	-		(chchhi)		-	-	(ṭhā)	-	(ḍaḥ)	-	(ṇaḥ)		(ṭho)	(dā)	(ḍhā)	(nā)
-	-	-		(khi)			(ṅghaḥ)		(chchha)		-	(ñchi)		(ṭhaḥ)		-			(ṭhā)			
-	-	-				(ghaḥ)	(ṅka)		-		-	-		(ṭhaḥ)	(dā)				(ṭhi)			(na)
-	-	-	(ka)				(ṅkaḥ)		(chchi)		-	(ñca)		(ṭhaḥ)	(ḍa)				(ṭhā)			(nai)
-	-	-							(chchhra)		-	-			(ḍā)	-						
-	-	-					(ṅka)		(chchhi)		-	(ñja)		(ṣṭha)	-	-			(ṭhā)	(ḍha)		
-	-	-										(ñcha)		(ṭhaḥ)	(ṇḍa)	-			(ṭhi)			
-	-	-				(ghā)	-		(chchhu)		-	-		(ṭhi)	-	-					(dhā)	
-	-	-				(ghā)	-		(chchhi)		-	-		(ṣṭha)					(ṭhā)			
-	-	-			(gu)		-			(jaḥ)	-	-		(ṇṭha)			(ṇā)		(ṭhā)			
-	-	-		(khā)			(ṅhā)		(cchia)	(jaḥ)	-	-		(ṇṭhi)								
-	-	-		(khi)		-	(ṅka)		(chchha)		-	(ñja)		-	(ṇḍa)	-	(no)				(dhe)	
-	-	-				(ghā)	-		(chchhra)		-	(ñchu)		-	(nda)							
-	-	-			(go)	(ghā)	(ṅka)		(chchhu)			-	(taṁ)						(ṭhu)			
-	-	-		(khi)		-	-		(chchhu)		-	-		-	(ṇḍa)	-	(ṇḍa)	(ṭuḥ)			(ṭhe)	
-	-	-																				

	A	Ā	I	Ī	U	Ū	Ṛ	E	AI	O	AU	KA	KHA	GA	GHA	ṄA	CHA	CHHA	JA
1. Prince of Wales M. Plates of Dadda III, Kalachuri Y. 427	स्वहस्तो मम श्री दद्दस्य (svahasto mama śrī Daddasya)																		
2. Multai C.P. S. Y. 631				-		-	-		-	-	-	क (ṅka)	ख (khi)	ग (gā)	घ (ghā)	क (ṅka)	च (chai)	छ (chhi)	ज (jo)
3. Nalanda Inscr. of Yaśovarmadeva				-		-	-		-	-	-	क	ख	ग	घ (yho)	ङ (ṅga)	च	छ (chkha)	ज (jā) ज्ज (jja)
* 4. Samangad C.P. S. Y. 675				-		-	-		-	-	-	क	ख (kho)	ग	घ (rgha)	ङ (ṅgi)	च	छ (chchhi)	ज
5. North Gaya Inscr. of Dharmapāla	-	-	-	-		-	-	-	-	-	-	क	ख (khaḥ)	ग (gr)	-	ङ (ṅśa)	च	-	ज (j')
6. Khalimpur Inscr. of Dharmapāla				-		-	-		-	-	-	-	ख (khi)	ग (gā)	घ	-	च	छ (ch'chhā)	ज (jnā)
7. Nalanda Pl. of Devapāla				-		-	-	-	-	-	-	क	ख	ग	घ	ङ (ṅga)	च	छ (c'chh)	ज (jā)
8. Munger Inscr. of Devapāla				-	-	-	-	-	-		-	क	ख (khi)	ग (go)	-	-	च	छ (c'chh)	ज
9. Talegaon C.P. S. Y. 690		-		-	-				-	-	-	क	ख (khi)	ग	घ	ङ (ṅghaḥ)	च स	छ (chchha)	ह
10. Bhāndak C.P. S. Y. 694				-			-		-	-	-	क	ख	ग	घ (ghaḥ)	ङ (ṅka)	च य	-	ट
11. Pimpri C.P. S. Y. 697				-		-	-		-	-	-	क (kā)	ख	ग	घ	ङ (ṅhaḥ)	च	छ (chchh)	ट
12. Dhulia C.P. S. Y. 701	-			-		-	-		-	-	-	क	ख	ग	घ	ङ (ṅga)	च	छ (c'chh) ञ्छ (ñchh)	ड
13. Jethwai C.P. S. Y. 708						-	-		-	-	-	क	ख	ग	घ	ङ (ṅka)	च	छ (chh)	ट
14. Daulatabad C.P. S. Y. 715				-	-	-	-	-	-	-	-	क	ख (khi)	ग	घ (ghaḥ)	ङ (ṅga)	च्छ (chchh)	✓	ड
15. Paithan C.P. S. Y. 716	-			-	-	-	-		-	-	-	क	ख	ग	घ (ghā)	-	च	छ (chcha)	ट
16. Anjaneri C.P. - -				-		-	-		-	-	-	क	ख (khi)	ग	घ (ghā)	-	च	छ (chh)	ट
17. Sisvai C.P. S. Y. 729		-		-		-	-		-	-	-	क	ख	ग (gā)	घ (ghā)	-	च	छ (chchh)	ट
18. Wani C.P. S. Y. 730				-	-	-	-		-	-	-	क	ख (khi)	ग (gu)	घ	-	च	छ	ढ (jaḥ)
19. Sirpur C.P. S. Y. 734			-	-		-	-		-	-	-	क	ख (khā)	ग	घ	ङ (ṅhā)	च	छ (c'chha)	ढ (jaḥ)
20. Barah C.P. V.S. 893	-			-		-	-		-	-	-	क	ख (khi)	ग	-	ङ (ṅka)	च	छ (chchha)	ड
21. Ahar St. Inscr. Harsha Y. 259				-		-	-		-	-	-	क	ख	ग	घ (ghā)	-	च	छ (chchha)	ड
22. Sanjan C.P. S. Y. 793				-		-	-		-	-	-	क	ख	ग (go)	घ (ghā)	ङ (ṅka)	च	छ (chchha)	ड
23. Dighwa-Dubauli C.P., V.S. 955	-			-		-	-	-	-	-	-	क	ख (khi)	ग	-	-	च	छ (chchha)	ड
24. Asni St. Inscr. V.S. 974	-	-	-	-	-	-	-	-	-	-	-	क	ख (khi)	ग	-	-	च	-	ढ

PLATE VIII B



	PA	PHA	BA	BHA	MA	YA	RA	LA	VA	ś'A	SHA	SA	HA	ā	i	ī	u	
1. Prince of Wales Pl. C.P. Kalachuri Y. 427																		
2. Multai C.P. S'.Y. 631											(sho)				(vi) (vi)	(sti)	(nu) (tu)	
3. Nalanda Inscr. of Yas'ovarmadeva			-								(shā)			(kā)	(ki) (hi)	(rī)	(du) (tu)	
*4. Samangad C.P. S'. Y. 675		(pha)	-											(sā)	(hi)	(s'ī)	(ndu) (s'u)	
5. Bodh-Gaya Insc. of Dharmapāla		-	-	(bhi)						(s'ī)	(s'hā)	(si)	(nā)	(mā)	(s'i)	(hī)	(tu) (nnu)	
6. Khalimpur Insc. of Dharmapāla			-								(kṣ)		(hā)	(hā)	(s'rī)	(sī)	(su) (nu)	
7. Nalanda Pl. of Devapāla			-										(hāḥ)	(ā)	(si)	(vī)	(mu)	
8. Mungir Insc. of Dempāla			-				(no)			(s'aḥ)	(s'ī)			(dā)	(vi)	(rī)	(ku)	
9. Talegaon C.P. S'. Y. 690			-											(sā) (dhā)	(bhi)	(nī)	(shu) (nu)	
10. Bhāndak C.P. S'. Y. 694		(pha)	-											(dhā)	(hi)	(rī)	(ṇḍu) (nnu)	
11. Pimpri C.P. S'. Y. 697			(bra)	(bhau)										(nā) (lā)	(mi)	(pī)	(nu) (ku)	
12. Dhulia C.P. S'. Y. 701	(pah)	(pha)	-							(sū)				(sā)	(mi)	(nī)	(ṣṭu)	
13. Jethwai C.P. S'. Y. 708						(yah)								(hā) (yā)	(ni) (pi)	(rī) (vī)	(nu) (ku)	
14. Daultabad C.P. S'. Y. 715		-	-											(dhā) (yā)	(bhi)	(sī)	(su) (ku)	
15. Paithan C.P. S'. Y. 716	(pah)		-								(ṣṭra)			(sā)	(bhi) (ci)	(sī)	-	(bhū) (mū)
16. Anjanavati C.P. - -			-											(dā) (pra)	(dhi)	(s'ri)	(ku) (nu)	
17. Siovai C.P. S'. Y 729			-											(lā)	(ti)	(s'rī)	(pu)	
18. Wani C.P. S'. Y. 730			-							(sam)	(ṣṭā)			(sā)	(bhi)	(sl,rī)	(ṇḍu) (nnu)	
19. Sirso C.P. S'. Y. 734			-								-			(vā)	(ni) (s'i)	(sau)	(nu)	
20. Barah C.P. V.S. 893		-	-											(mā)	(si)	(s'rī)	(pu)	
21. Ahar St. Insc. Harsha Y. 259		(mā) (sphu)	ब											(rā)	(dhi)	(s'rī)	(nu) (nu)	
22. Sanjan C.P. S'. Y. 793			-						(vaṁ)	-	(rsha)		(hī)	(pā) (dhā)	(vi)	(dī)	(tu) (nu)	
23. Dighwa-Dubauli C.P. V.S. 955		-	-											(mā)	(si)	(s'rī)	(pu)	
24. Asni Insc. V.S. 974		-	-							(s'rī)	(shu)		(hi)	(rā)	(dhi)	(hi)	(nu)	-

DEVANAGARI INSCRIPTIONS

	A	Ā	I	Ī	U	Ū	RI	E	AI	O	AU	KA	KHA	GA	GHA	NA	CHA	CHHA	JA	JHA	ÑA	ṬA	ṬHA	ḌA	ḌHA	ṆA	TA	THA	DA	DHA	
1. Bengal As. Soc. C.P. V.S. 988	-	अु	ॅ	-	उ	-	-	ए	-	-	-	क	ख (khi)	ग	-	ङ (ṅgā)	-	-	ज	-	-	ट	-	-	-	ण	त: (taḥ)	थ	द	ध	
2. Harsola C.P. V.S. 1005	अ	-	ॅ	-	उ	-	-	ए ए	-	-	-	क	ख ख	ग ग	ष	ङ (ṅga)	च	-	ज	-	-	ट	ठ	ड	-	ण ण	न	थ (thā) ठ (ṭhaṁ)	द द	ध ध	
3. Ahmedabad C.P. V.S. 1026	ञ	ञ	ः	-	उ	-	-	-	-	-	-	क	-	ग	-	-	च	-	ज	-	-	-	-	-	-	ण (ṇi)	त	थ (ntha)	द	ध	
4. Harsha Insca. V.S. 1030	अ	आ	ॅ	-	उ	-	-	-	-	-	अ	क: (kaḥ)	ख	ग	ध (ghe)	-	च	क	ज	झ (ñjha)	-	ट	ठ (ṭhe)	ड (ḍi)	ढ	ण (ṇā)	न	थ	द	ध	
5. Baroda Museum C.P (Grant A) S.Y. 915	अ	आ	ॅ	-	उ	-	-	ए	-	-	-	क	ख	ग	घ	ङ (ṅga)	च	छ (chchhi) छ (chchha)	ज	झ	-	ट	ष्ठ (shṭha)	ड	-	ण	त	थ	द	ध	
6. Baroda Museum C.P. (Grant B) S.Y. 915	अ	आ	-	-	उ	-	-	ए	-	-	-	क	ख्रा (khā)	ग	घ	-	च	छि (chchhe)	ज	-	-	ट	ष्ठि (shṭhi)	ड	-	ण	त	था (thā)	द	ध	
7. Bhadana C.P. S.Y. 919	अ	आ	ः	-	उ	-	-	ए	-	-	-	क	ख्वो (tkhw)	ग	घ	-	च	छि (chchhi)	ज	झ	-	ट	-	ड	ढ	ण्ड (ṇḍa)	त	थ	द	ध	न
8. Jhusi C.P. V.S. 1084	अ	-	-	-	-	-	-	-	-	-	-	क	ख्रा (khā)	ग	-	ङ्ग (ṅgā)	च	ढ	ज	-	-	ट्ठा (ṭā)	-	ण्ड (ṇḍa)	-	ण	त	ष्ठो (ṭho)	द्रा (drā)	ध्वि (dhi)	
9. Depalpur C.P. V.S. 1079	अ	-	ॅ	-	उ	-	-	-	ऐं (aiṁ)	-	-	क	ख्वि (khi)	ग	-	ञ (ṅga)	च	-	ज	-	-	ट्टः (ṭaḥ)	-	ड्डि (ḍi)	-	ण	त	ष्ठा (ṭhā)	द	ध्वि (dhi)	न्द (nd)
10. Kara st. Insca. V.S 1093	अ	आ	-	-	-	-	-	-	-	-	-	क	-	ग	-	-	-	-	ज	-	-	-	-	ण्ड (ṇḍa)	ढ	ण्ड (ṇḍa)	ठि (ṭi)	ष्ठा (ṭhā)	द	ध्वि (dhi)	न
11. Prince of Wales Museum C.P. S.Y. 971	अ	आ	ॅ	ॅ	उ	-	-	ए	-	-	-	क	ख	ग	-	-	च	क	ज	झ	-	ट	ठ: (ṭhaḥ)	ड	ढ	ण	न	ध	द	ध	न
12. Mandhata C.P. V.S. 1112	अ	-	ॅ	-	उ	-	-	-	ऐ	-	-	क	ख्रां (khraṁ)	ग	घ	ञ (ṅga)	च	-	ज	-	-	ट्टः (ṭaḥ)	-	ड्डि (ḍi)	ढ	ण	त	ष्ठ	द	-	न
13. Navasari Grant A+B, S.Y. 996 V.S. 1131	अ	आ A आ B	ॅ	ॅ	उ	-	-	ए	-	-	-	क	ख	ग	घ्रा (ghā)	ङ्क (ṅka)	च	का (chchhā)	ज ज	-	-	ट	-	ड्डा (ḍḍā)	ढ्ढि (ḍḍhi)	ण	त	थ	द	ध ध	न
14. Sunak Grant V.S. 1148	अ	आ	ॅ	-	उ	-	-	-	ऐ	-	-	क	ख	ग	घु (ghu)	-	च	-	ज	-	-	ट	ठ	ड्डा (ḍḍā)	-	ण	त	थ्रा (thā)	द	ध	न
15. Sambhar Insca. Undated	-	-	ऽ	-	-	-	-	ए	-	-	-	क	ख्य (khya)	ग	घ्रे (ghre)	-	च	छ्व (chchha)	ज्ञा (jā)	-	-	-	-	ड	-	ण	त	थ्रा (thā)	द	ध	न
16. Kharepatan C.P. S.Y. 1016	अ	-	ॅ	-	उ	-	-	ए	-	-	-	क	ख्व	ग	घ्वः (ghvḥ)	-	च	क्क (chchha)	ज	झ्झ (jjha)	-	ट	ठः (ṭhaḥ)	ड्डा (ḍḍā)	-	ण	त	थ्वि (thi)	द	ध्वः (dhvḥ)	न
17. Utaunja C.P. V.S. 1186	ञ	-	ॅ	-	-	-	-	-	-	-	-	क	ख्वि (khi)	ग	घ्वा (ghvā)	-	च	-	ज ज	-	-	ट	ठि (ṭhi)	ड्डि (ḍḍi)	-	ण	त	ष्ठ (thā)	द्द (dde)	द्ध (ddhe)	न
18. Mangrol Insca. V.S. 1202	-	आ	ॅ	-	उ	-	ऋ	ए	-	-	-	-	ख्व	ग	-	-	च	का (chchhā)	ज	-	-	ट	ठ	ड	ढ्ढा (ḍḍho)	ण	त	घ	द	ध	न
19. Delhi Sivalik P. Insc. V.S. 1220	ॐ (aṁ)	आ	-	-	-	-	-	ए	-	-	-	क	ख	ग्रा (grā)	-	-	च्चा (chchā)	छ्व (chchha)	ज	-	-	-	-	ड्ड (ḍḍe)	-	ण्ण (ṇṇā)	त्ति (tti)	र्थ्वि (rthi)	द	ध्व (dhe)	न
20. Bijolia Insc. V.S. 1234	-	-	ॅ	-	उ	-	-	-	-	-	-	क	ख	ग	-	-	च्चा (chchā)	-	ज	-	-	-	-	ट	ढ	-	त्तौ (ttau)	ष्ठा (ṭhā)	दी	-	न
21. Madanpur Insca. V.S. 1239	अ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	च्चा (chchā)	-	ज	-	-	-	-	-	-	ण	-	-	द्दि (rddi)	-	न
22. Visalpur Insc. V.S. 1244	अ	-	-	-	-	-	-	-	-	-	-	क	ः	ग	-	-	च	-	ज	-	-	ट्टा (ṭṭā)	ठ	ड	ढ	ण	त	घ	द	ध	न

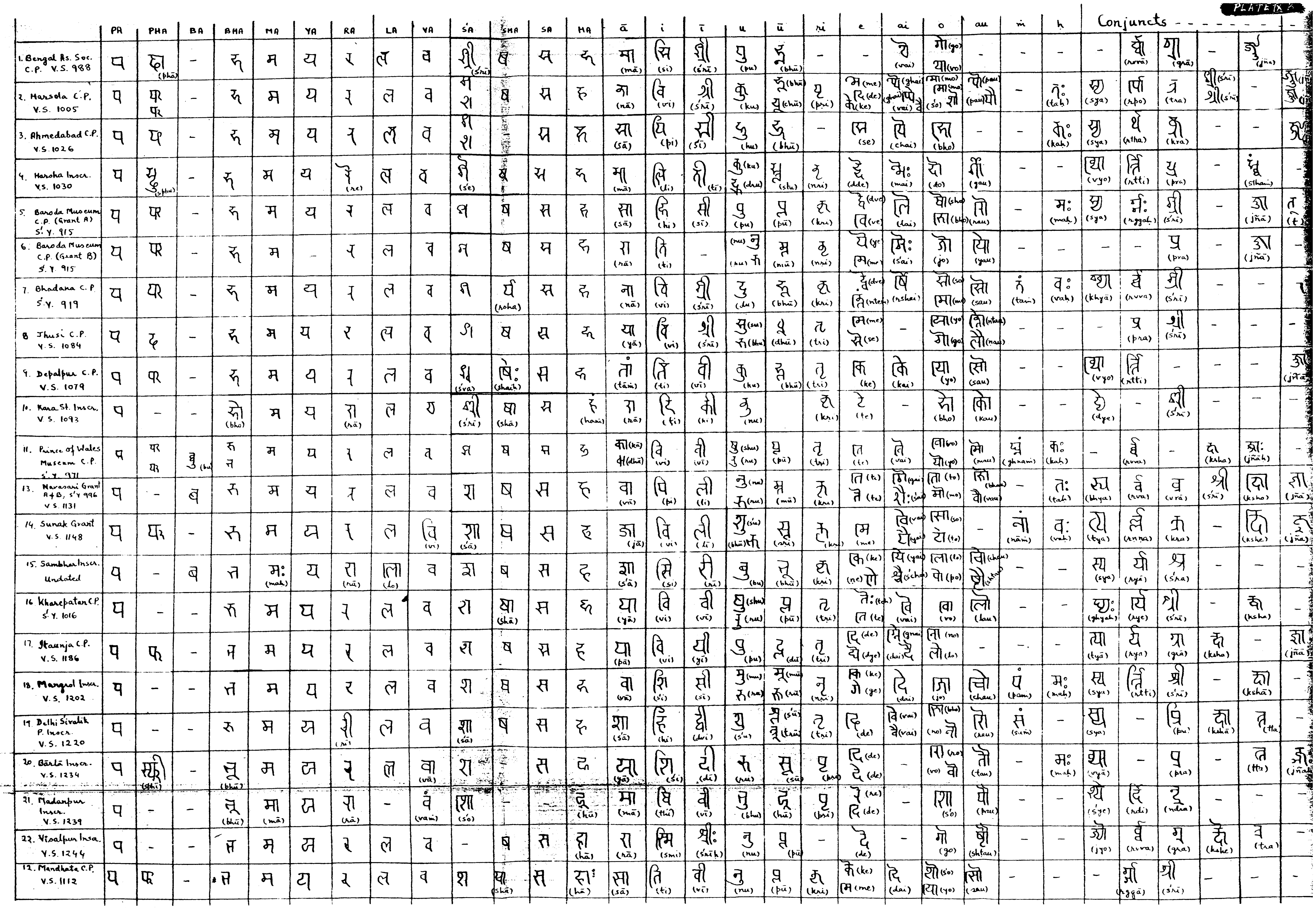


PLATE IX
Conjuncts
PA
PHA
BA
BHA
MA
YA
RA
LA
VA
ŚA
SHA
SA
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1. Bengal As. Soc. C.P. V.S. 988
2. Harsola C.P. V.S. 1005
3. Ahmedabad C.P. V.S. 1026
4. Harsha Inscr. V.S. 1030
5. Baroda Museum C.P. (Grant A) Ś.Y. 915
6. Baroda Museum C.P. (Grant B) Ś.Y. 915
7. Bhadana C.P. Ś.Y. 919
8. Jhusi C.P. V.S. 1084
9. Depalpur C.P. V.S. 1079
10. Kara St. Inscr. V.S. 1093
11. Prince of Wales Museum C.P. Ś.Y. 971
13. Navasari Grant A+B, Ś.Y. 996 V.S. 1131
14. Sunak Grant V.S. 1148
15. Sambhar Inscr. Undated
16. Kharepatan C.P. Ś.Y. 1016
17. Jtaunja C.P. V.S. 1186
18. Mangrol Inscr. V.S. 1202
19. Delhi Sivalik P. Inscr. V.S. 1220
20. Bārlā Inscr. V.S. 1234
21. Madanpur Inscr. V.S. 1239
22. Visalpur Insa. V.S. 1244
12. Mandhata C.P. V.S. 1112

	PA	PHA	BA	BHA	MA	YA	RA	LA	VA	ŚA	SHA	SA	HA	Med ā	i	ī	u	ū
1. Rāmaka... gaṇa... V.S. 1015	प	फ	ब	भ	म	य	र	ल	व	श	ष	स	ह	टा (ṭā)	दि (di)	श्री (śrī)	गु (gu) रु (ru)	पू (pū)
2. Niśīthasūtra Bhāṣya, V.S. 1146	प		-	भो (bho)	म	य	र	ल	व	-		स	हो (ho)	धा (dhā)	खि (khi)	-	गु (gu)	हू (hū)
3. Sukhabodhā, V.S. 1164	पा (pā)			भ	म	य	र	ल	व	श	ष	-	ह	पा (pā)	खि (khi)	खी (khī)	-	-
4. Aṅgavidyā, V.S. 1297	पी (pī)	[illegible]	बु (bu)	भा (bhā)	म	य	र	ल	वा (vā)	-		स	-	वा (vā)	ति (ti)	पी (pī)	कु (ku)	सू (sū)
5. Piṇḍaviśuddhi, V.S. 13?0	पि (pi)	फ	-	भि (bhi)	म	या (yā)	रा (rā)	ला (lā)	व	शि (śi)	ष	-	ह	णा (ṇā)	पि (pi)	-	कु (ku)	मू (mū)
6. Uttarādhyayana Sūtra, V.S. 133?	पा (pā)	-	-	भं (bhaṃ)	म	या (yā)	र	ल	वा (vā)	-	-	सं (saṃ)	ह	पा (pā)	सि (si)	ती (tī)	लु (lu) रु (ru)	कू (kū)
7. Pratilekhanā-gāthā, V.S. 1355	प	-	-	भ	म	य	र	ल	व		-	स	ह	सा (sā)	लि (li)	श्री (śrī)	कु (ku)	-
8. Ṛgveda, V.S. 1418	प	-	बु (bu)	भो (bho)	म	य	र	-	व	श	ष	स	ह	क्षा (kṣā)	ति (ti)	णी (ṇī)	कु (ku)	भू (bhū)
9. Upāsakadaśāṅgasūtra, V.S. 1723	प	फ	-	भ	म	य	र	ले (le)	वा (vā)	शि (śi)	[illegible]	स	ह	या (yā)	ति (ti)	श्री (śrī)	लु (lu)	पू (pū)
10. Bhagavatī Sūtra, V.S. 1870	-	-	-	भं (bhaṃ)	मे (me)	-	-	ले (le)	-	-	ष	स (sa)	ह	-	-	-	-	-

PLATE X B

VA	SA	SHA	SA	HA	Medā	i	ī	u	ū	ṛi	e	ai	o	au	Anusvār	Visarga	Conjuncts					
व	श	ष	स	ह	टा (ṭā)	दि (di)	श्री (śrī)	गु (gu) ॡ (ḷu)	पू (pū)	-	से (se)	-	मो (mo)	लौ (lau)	शं (śaṁ)	-	स्था (sthyā)	-	प्र (pra)	ह्म (hma)	त्रे (tre)	त्त (tta)
व	-		स	ह्ल (hla)	ध्व (dhva)	क्ष (kṣi)	-	गु (gu)	ह्न (hnu)	-	ष्टे (ṣṭe)	-	ह्ल (hla)	-	-	-	-	-	-	-	-	-
व	श	ष	-	ह	प्या (pya)	श्चि (ści)	खी (khī)	-	-	गृ (gṛi)	ये (ye)	-	लो (lo)	-	-	-	-	र्या (ryā)	प्र (pra)	श्चि (ści)	क्ष्मः (kṣmaḥ)	-
त्वा (tvā)	-		स	-	त्वा (tvā)	ति (ti)	घी (ghī)	कु (ku)	सू (sū)	-	ति (te) ते (te)	-	ह्या (yo)	-	-	-	-	-	-	ह्मा (thā)	त्ति (tti)	-
व	श	ष	-	ह	ग्ना (gnā)	पि (pi)	-	कु (ku)	न्ह (mhū)	-	श्ये (śye)	-	-	-	-	-	थ्या (thyā)	-	-	त्रा (trā)	क्ष्म (kṣma)	-
वा (vā)	-	-	सं (saṁ)	ह	पा (pā)	सि (si)	ल्ली (llī)	ल्लु (llu) ॡ (ḷu)	क्रू (krū)	-	ष्ठे (ṣṭhe)	-	ना (no)	-	तं (taṁ)	-	-	र्या (ryā)	ग्रं (graṁ)	ल्ली (llī)	ह्मा (hmā)	ज्ञा (jñā)
व		-	स	ह	सा (sā)	लि (li)	श्री (śrī)	कु (ku)	-	-	रे (re)		दो (do)		लं (laṁ)	-	-	-	-	श्व (śva)	त्त (tta)	ज्ञा (jña)
व	श	ष	स	ह	क्ता (ktā)	ति (ti)	णी (ṇī)	कु (ku)	न्हू (hnū)	घृ (ghṛi)	ति (te) श्ये (śye)	श्वे (śvai)	रो (ro) वि (vi)	गौ (gau)	-	-	भ्यं (bhyaṁ)	र्पः (rpaḥ)	प्रः (praḥ)	श्वि (śvī)	द्ध (ddha)	ज्ञि (jñi)
वा (vā)	श्री (śrī)	ष्ण (ṣṇa)	ग	ह	या (yā)	ति (ti)	श्री (śrī)	लु (lu)	पू (pū)	क्ष (kṣi)	णे (ṇe)	चै (cai)	दो (do)	थौ (thau)	त्तं (ttaṁ)	-	-	र्ण (rṇa)	-	श्ल (śla)	क्षे (kṣe)	ण्ण (ṇṇa)
-	-	ष	ण (ṇa)	ह	-	-	-	-	-	-	ते	-	सो	-	-	-	-	-	-	-	-	-

	A	Ā	I	Ī	U	Ū	ṚI	E	AI	O	AU	KA	KHA	GA	GHA	ṄA	CHA	CHHA	JA
1. Rāmakiṅṅaṛatu-ṣṭipadī, V.S. 1015	अ	आ	इ	ई	उ	ऊ	-	ए	-	-	-	क	-	ग	घ	-	चा (chā)	ब	ज
2. Niśīthasūtra-Bhāsya, V.S. 1146	अ	-	ब	-	उ	-	-	ए	-	उ	-	क	-	गु (gu)	घ	-	च	छि (chhi)	ऊ
3. Sukhabodha, V.S. 1164	अ	-	इ	-	उ	-	-	ए	-	-	-	क	खी (khī)	ग	घ	-	च	छ (ch'h)	ऊ
4. Aṅgavidyā V.S. 1292	अ	-	इ	-	उ	-	-	ए	-	उ	-	क	खं (kham)	ग	-	-	च	-	ऊ
5. Piṇḍaviśuddhi, V.S. 1300	अ	-	इ	-	उ	ऊ	-	ए	-	-	-	क	ख (Khe)	ग	घा (ghā)	-	च	छा (ch'hā)	ऊा
6. Uttarādhyayana Sūtra, V.S. 1332	-	आ	इ ईं (im)	-	उ	-	-	ए	-	-	-	क	ख	ग्रं (gram)	-	-	चा (chā)	का (chhā)	जि (ji)
7. Pratilekhaṇa-gāthā, V.S. 1355	अ	आ	इ	-	उ	-	-	ए	-	-	-	क	ख	ग	ष	-	च	-	-
8. Ṛigveda, V.S. 1418		आ	इ	ई	उ	ऊ	-	ए	-	उ	-	क	खा (khā)	ग	-	-	च	छ	
9. Uvāsakadasāṁ-gasūtra, S.V. 1723	अ	आ	इ	ई	उ	-	-	-	-	उ	-	के (ke)	ख	ग	ष	-	च	छ	-
10. Bhagavatī-Sūtra, V.S. 1870	-	-	-	-	उ	-	ऋ	ष	-	-	-	क	खे (Khe)	ग	-	-	च	छ (ch'h)	ज

PLATE XA

AI	O	AU	KA	KHA	GA	GHA	ṄA	CHA	CHHA	JA	JHA	ÑA	ṬA	ṬHA	ḌA	ḌHA	ṆA	TA	THA	DA	DHA	NA
-	-	-	क	-	ग	घ	-	चा (chā)	ब	ज	-	-	टा (ṭā)	-	ड	ढा (ḍhā)	णा (ṇā)	त	थ	द	ध	न
-	उ	-	क	-	गु (gu)	घ	-	च	छि (chhi)	ञ	-	-	-	ठ	-	-	ण	ति (te)	थ	द	ध	न
-	-	-	क	खी (khi)	ग	घ	-	च	छ (ch/chh)	ञ	-	-	टा (ṭā)	-	डि (ḍi)	.	ण ण	त	-	द	-	नि (ne)
-	ऊ	-	क	खं (kham)	ग	-	-	च	-	ऊ	-	-	टु (ṭu)	-	-	..	ण	त	-	-	धा (dhā)	-
-	-	-	क	ख (Khe)	ग	घा (ghā)	-	च	छा (ch/chā)	जा (jā) ज	-	-	-	ठ (ṭha)	ड	ढ	ण	ता (tā)	थ	दा (dā)	धा (dhā)	ना (nā)
-	-	-	क	ख	ग्रं (gram)	-	-	चा (chā)	छा (chhā)	जि (ji)	-	-	-	-	डं (ḍam)	-	णं (ṇam)	त	थ्रे (thre)	दि (di)	-	न्न (nna)
-	-	-	क	ख	ग	घ	-	च	-	-	-	-	-	-	-	ढे (ḍhe)	ण	त	था (thā)	द	-	नं (nam)
-	उ	-	क	खा (khā)	ग	-	-	च	छ	ञ	-	-	-	-	-	-	णा (ṇā)	त	थः (thaḥ)	द	ध	नं (nam)
-	ऊ	-	के (ke)	ख	ग	घ	-	च	छ	-	-	-	-	-	ड	-	णे (ṇe)	ति (ti)	थौ (thau)	दो (do)	धो (dho)	न
-	-	-	क	खे (Khe)	ग	-	-	च	छ (ch/chh)	ज	-	-	-	-	डे (ḍe)	-	णं (ṇam)	ते (te)	-	-	-	-

'Nāgarī of the Brāhmaṇas'.

Alberuni, who came to India in the company of Mahmud of Gazni, mentions Nāgara - a script which was used in Mālava and Ardhanāgarī which was used in Bhātiya and some parts of Sindh.[1] The Jain commentators Maladhārin Hemachandra Sūri[2] (XI Century) and Malayagiri Sūri[3] (XII century) mention the Nāgarī script in their commentaries on Viśeshāvaśyakabhāshya and Nandisūtra respectively. This shows that the name Nāgarī had become quite popular by the XI-XII century.

The existence of the name Nāgarī may be pushed two centuries back on the authority of a Chinese work Hsi-t'an-tzu-chi, which was written a century after Itsing. The author of this book records that he learnt from his teacher Prajñābodhi, an Indian monk, who in his turn learnt from his preceptor Prajñāghosha that a script Nāgarī* was used in Central India and that it was based on Siddham like other Indian scripts.[4]

Dani[5] is of the opinion that it has definitely been derived from the Varṇṇanāga which occurs in the compound

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1. Alberuni's India translated by Sachau, p. 173.
2. Viśeshāvaśyakabhāshyavṛitti, p. 256.
3. Malayagirīyā Nandivṛitti, p. 188.
4. R.H. van Gulik, Siddham, pp. 22-23.
5. Indian Palaeography, pp. 112-13.

*Lung-kung (Dragon Palace) is the exact word for Nāgarī in the text which according to R.H. van Gulik is a rendering of the term Nāga-rī.

Varṇṇanāgakṛipāṇikā in the inscriptions of Udayāditya and Naravarman who ruled between 1094 and 1133 A.D.[1] But this derivation cannot be accepted as the name Nāgarī was known long before the time of these inscriptions as shown above. The word varṇṇanāgakṛipāṇikā means 'the alphabet written in the shape of a serpent and sword', not the alphabet derived from Nāga. It was a general practice among the poets of the later Mahākāvyas to compose verses which could be written in various geometrical and other patterns.

Whitney thinks it may mean 'script of the city'.[2] V.S. Agrawala opines that it was the script connected with Nagara, which he identifies, on the authority of the play Dhūrtavitasamvādah* with Pāṭaliputra.[3] Yaśodhara,[4] author of the commentary Jayamaṅgalā on the Kāmasūtra also identifies Nagara with Pāṭaliputra. But while it may be conceded that Pāṭaliputra was called Nagara, it does not ipso facto follow that the script used in or around that city was called Nāgarī.

N.N. Vasu, after discussing the opinions of various Pandits whom he consulted, and of Isaac Taylor and Burnell, concludes that "This alphabet was first devised by a

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1. E.I., XXXI, p. 25.
2. Sanskrit Grammar, p. 1.
3. Indian System of Writing, p. 15.
4. Sāmprayogika Adhikaraṇa, prose piece 30.

* Chaturbhāṇī, p. 69.

class of men, designated Nāgara, and in a certain place also called Nagara."[1] But we are unable to accept this explanation, as the script is not the invention of a set of people but is the result of the natural process of evolution of the Brāhmī script.

Śesha Krishṇa, the author of Prākṛit Chandrikā of circa 1150 A.D. has recorded twenty seven Apabhramśas, two of which are Nāgara and Upanāgara. Hemachandra, the well-known Jain-monk also describes the Nāgara Apabhramśa.[2] According to Grierson, the close connection of Nāgara Apabhramśa with Śauraseni prakṛit of Central Gangetic Doab[3] points to the probable region of its use i.e. the Central Gangetic Doab. This region has been the home of the Nāgarī script from the 10th century A.D. upto now. So it seems possible that the script, which was used for writing the Nāgara Apabhramśa, came to be called Nāgarī.

Geographical Limits of the Use of Nāgarī:

As we have seen above, Nāgarī appears first in the Kaṇheri inscriptions of Śilāhāra Pullaśakti and Kapardin II of A.D. 851 and 877,[4] discovered from Kaṇheri in Thana district of Maharashtra. In Northern India, it appears

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1. J.A.S.B., LXV, p. 114.
2. cf. J.A.S.B., LXV, pt. I, pp. 114 ff.
3. Grierson's Linguistic Survey of India, IX, pt.II, p. 327.
4. Bühler's Plate, V, Col. V.

a century later in the Ganges valley in the plate of Vināyakapāla of A.D. 931.[1] By the eleventh century, it was in use in Maharashtra, Gujarat, Central India and the Ganges valley as can be testified by the records of Śilāhāras, Chaulukyas, Paramāras and Pratihāras. It occurs in the Ahmedabad copper plate of Sīyaka II of 969 A.D.,[2] in Jhusi (Allahabad Distt., U.P.) Copper plate of 1027 A.D.,[3] in Kara (Allahabad Distt., U.P.) inscription of 1036 A.D.,[4] and in the Kharepaṭan (Ratnagiri Distt., Maharashtra) copper plate of 1009 A.D.[5] which determine the limit of its use in the eleventh century.

Alberuni, the arabian scholar who visited India in 1038 A.D. with the armies of Mahmud Ghazni, states that Nāgarī was used in Malwa.[6] But from the inscriptional evidence, as quoted above we know that it was used in a much wider area covering, Gujarat, Maharashtra, Ganges valley in addition to Malwa.

A chinese work, Hsi-t'an-tzu-chi of about 800 A.D. records its use in Central India,[7] which is the Chinese

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1. I.A., XV, pl. facing p. 140.
2. E.I., XIX, pl. facing p. 178.
3. I.A., XVIII, pl. facing p. 34.
4. J.R.A.S., 1927, pl. facing p. 694.
5. E.I., III, pl. between pp. 300-01.
6. Sachau, Alberuni's India, 173.
7. R.H. van Gulik, Siddham, p. 22.

translation of Madhya-deśa, which has been roughly defined as follows:

हिमवद् विन्ध्ययोर्मध्यं यत् प्राग् विनयनादपि ।
प्रत्यगेव प्रयागात् च मध्यदेशः प्रकीर्तितः ॥[1]

It remained in use in the above mentioned area comprising of modern Haryana, Uttara Pradesh, Bihar, Madhya Pradesh, Rajasthan, Maharashtra and Gujarat. However, in Gujarat, it has been replaced by its offshoot Gujarati. In Bihar and eastern U.P. too, a number of scripts, its offshoots are in use such as Tirhuti Kaithi in Tirhut, Magahi Kaithi in Patna and Gaya, Bhojapuri Kaithi in a part of Bihar and U.P., Maithili script or Tirhuti script in Northern Bihar. The region of its use has become wider by supplanting Śāradā in Kashmir, and Chamba and Newari in Nepal. In Kanarese speaking region, Nāgarī in its slightly varying form i.e., Nandināgarī is still used for writing Sanskrit manuscripts. It remained in use for writing Sanskrit in all parts of India since long.

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[1] Manu, II, 2.

CHAPTER 10

NĀGARĪ IN INSCRIPTIONS

Nāgarī with its full developed top-strokes, bridging invariably the upper ends of a, ā, gha, pa, pha, ma, ya, sha, sa and vertical tails in place of earlier slanting tails is exhibited first in the Kanheri inscriptions of Śilāhāra Pullaśakti and Kapardin II[1] dated A.D. 851 and 877 respectively. According to Bühler, the first appearance of Nāgarī letters is to be met with in the signatures of the Gurjaras of Broach (now called Gurjaras of Nāndīpurī) and the first inscription written throughout in Nāgarī characters is Samangad copper plate.[2] As regards the signatures in Kaira,[3(a)] Dabhoi(Sankheda),[3(b)] and Nausari[3(c)] copper plates they do not seem to be written in Nāgarī as they display archaic forms of the letters without long head-lines and vertical tails. The Samangad copper plate, no doubt, is written in Nāgarī

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1. Bühler's Table, V, Col. V.
2. Indian Palaeography, pp. 69-70.
3(a) J.R.A.S., 1865, p. 247; C.I.I., IV, pt. I, pl. facing p. 61.
3(b) E.I., V, pl. facing p. 41; C.I.I., IV, pt. I, pl. facing p. 79.
3(c) I.A., XIII, pl. facing p. 79; C.I.I., IV, p. I, pl. facing p. 87.

but V.S. Sukthankar has argued that it is spurious.[1] One of his reasons is that "these plates occupy a very isolated position in the progressive development of Nāgarī." He seems to be correct as the other later records[2] such as the copper plates from Talegaon, Bhandak, Pimpari, Dhulia, Jethwai, Daultabad, Paithan, Anjanavati, Sisvai, Wani, Sirso, Sanjan are all written in proto-Nāgarī. Thus, Kanheri inscriptions remain the earliest records written throughout in Nāgarī.

The earliest northern record written in Nāgarī is the Bengal Asiatic Society copper plate of Vināyakapāla[3] of Sam. 988 which is now believed to be belonging to A.D. 931.[4] Thus the first appearance of Nāgarī in northern India is pushed one and a half century further as compared to Bühler's view[5] based on the wrong reading of the date as A.D. 794.[6]

Now, we shall deal with the chronological development of Nāgarī in detail.

The development is being noticed under three divisions as follow:-

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1. Commemorative Essays presented to R.G. Bhandarkar, p. 317.
2. See Table VIII.
3. I.A., XV, pl. facing p. 140.
4. R.S. Tripathi, History of Kannauj, Appendix A, p. 362, no. 13.
5. Indian Palaeography, p. 70.
6. Fleet, I.A., XV, p. 111.

1. The earliest phase - from 9th century A.D. to the tenth century A.D.

2. Development of the alphabet in the 11th to 13th century A.D.

3. The final development.

The Earliest Phase: From first appearance to the tenth century A.D. (9-10 centuries A.D.).

The development is noticed in the following letters:

A The form of a - अ - as it appears in the Kaṇheri inscription[1] is same as seen in the Nalanda inscription of Yaśovarmadeva with the difference that it has a straight top-stroke. The copper plate of Vināyakapāla[2] presents an advanced shape where oblique stroke at the bottom is shifted a little above and slopes downwards - अ . This form is found in general use.

Ā In Nāgarī inscriptions, ā is mostly modern looking. However, the copper plate of Vināyakapāla, exceptionally retains the older form where lengthening is shown by a bottom curve.

I The initial i retains its old shape - ऽ .

Ī Long initial ī does not occur in these records.

U The initial u has a long head-line - उ - in Nāgarī inscriptions as can be seen in the Kanheri inscription.[3]

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1. Bühler's Tables, V, v.1.
2. I.A., XV, pl. facing p. 140, l.13.
3. Bühler's Tables, V. v.5.

Ū The initial long ū is not met with in these inscriptions.

Ri No example of initial ri is found.

E Both the forms of e i.e. with the tail and without tail are used side by side.

Ai, O The letters ai, and o do not occur in these inscriptions.

Au In the new shape of au occurring in the Harsha inscription of A.D. 973,[1] the vertical part of the hook is elongated upwards thus -औ .

Ka Ka with longer central vertical line is common now whereas it occurred only occasionaly in the earlier inscriptions.

Kha, Ga The old round topped form of kha and ga is only preserved in the Bengal Asiatic copper plate of Vināyakapāla.

Gha The advanced form of gha - घ: (ghuḥ) where the dividing line is shortened is often found in the Nāgarī inscriptions from the end of the tenth century A.D. as in the Baroda Museum copper plate grant A of 994 A.D.[2] The older one is also met with side by side.

Na The form of ṇa shows no advancement.

Cha The old tailed form of cha - च is usually met with in this period though the older one without tail survives upto the end of the thirteenth century A.D.

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1. E.I., II, pl. facing p. 240, l.22.
2. Important Inscriptions from Baroda, I, pls. V-VIII, l.5.

Chha The tailed form of chha becomes more frequent though the one without tail remains in use upto the thirteenth century A.D. as can be seen in the Abu inscrption no. ii of 1209 A.D.[1]

Ja Ja still appears in its old form ज .

Jha The old form of jha (झ) develops further by extending both the lines of the hook and the lower shooting line - झ as in the Baroda Museum copper plate grant A of 994 A.D.[2]

Ña The form of ña does not occur in these records.

Ṭa, Ṭha Ṭa and ṭha appear with the top-stroke in all the Nāgarī inscriptions. However, Harsha inscrption displays the older form of ṭha without the top-mark.

Ḍa The modern looking form of ḍa is common though the one with a sharp bend survives in conjuncts.

Ḍha Ḍha preserves its modern shape.

Na Side by side with the old form (ण), the new form of na is met with only occasionally as in the Harsola plate B.[3] In this form, the top has been flattened and the left hand stroke has a bend - ण .

Ta Both the old two curved form and the modern-looking form of ta are found. The latter becomes quite common in the middle of the tenth century A.D.

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1. E.I., VIII, pl. facing p. 222, l.28.
2. Important Inscriptions from Baroda, I, pls. V-VIII, l.30.
3. E.I., XIX, pl. facing p. 243, l.1 (in Śreṇaya).

Tha Both the single looped (ठ) and double looped (ठ) forms of tha are used in this period.

Da The central bulge of da becomes broader - द - as in the copper plate of Vināyakapāla.[1] Sometimes, it becomes rounded - द - as in the Harsola copper plate B of 949 A.D.[2] The latter is often found in the inscriptions of śilāhāras and Chaulukyas of Gujarat.

Dha The form of dha with projected end at the top is more commonly seen now.

Na Both the forms of na, the looped one and the modern-looking are found side by side.

Pa Pa has a long head-line as in the copper plate of Vināyakapāla.[3]

Pha Side by side with the form (प) already seen in the Nalanda inscription of Yaśovarmadeva, a new form of pha is met with in the first half of the tenth century A.D. In this form, the loop on the right has an oblique tail - फ as in the Harsola copper plate B of 949 A.D.[4]

Ba The Nāgarī form of ba as already seen in the Ahar stone inscription is used in the Chaulukyan records while Paramāra inscriptions retain va for ba.

Bha Bha is usually of this - भ - form.

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1. I.A., XV, pl. facing p. 140, l.1.
2. E.I., XIX, pl. facing p. 243, l.2.
3. I.A., XV, pl. facing p. 140, l.1.
4. E.I., XIX, pl. facing p. 243, l.21.

Ma, Ya Ma and ya have regularly the longer head-line resulting into close head which can be seen in the copper plate of Vināyakapāla.[1]

Ra The Nāgarī form of ra - ऱ - where lower part becomes as prominent as the upper one, sometimes even more - ऱ् - becomes common in this period.

La The modern-looking form of la with the central horizontal bar inclined -ल common though the older one still survives as in the Kara stone inscription of 1036 A.D.[2]

Va Absolutely modern-looking form of va having a long top-stroke and straight vertical on the right - व is usually found.

Śa The new and Nāgarī form of śa occurring for the first time in the Harsola grant B of 949 A.D.[3] is caused by making the loop outwards - श whereas in the older shape it was drawn inwards.

Sha The modern Nāgarī form of sha is common having a long head-line and a straight vertical on the right.

Sa Like sha, sa is also invariably modern-looking.

Ha Ha invariably consists of a tail as in modern Nāgarī.

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1. I.A., XV, pl. facing p. 140, l.1.
2. J.R.A.S., 1927, pl. facing p. 694, l.5.
3. E.I., XIX, pl. facing p. 243, l.1.

Medials The Nāgarī forms of the medials ā, i, ī, u, ri as sometimes seen in the preceding period become common now. But medial ū is more often found in the old shape - मू (mū). Each of the medials e, ai, o, au appears in two shapes. In one group, the end of the left hook seen in the proto-Nāgarī, extends down to the bottom thus - ⌐ (e), ⌐ (ai), ⌐ (o), ⌐ (au). The other group is distinguished by a top stroke in place of the left side stroke thus, ⌐ (e), ⌐ (ai), ⌐ (o) ⌐ (au) as we have in modern Nāgarī.

Conjuncts Advanced and modern forms of the superscript and subscript ra, subscript ya and conjunct ksha as already seen in the preceding period become common now.

The development is more or less complete in the case of the following letters:

a, ā, u, ū, ka, ga, ṭa, ṭha, ḍa, ḍha, ṇa, ta, da, na, pa, ba, ma, ya, ra, la, va, śa, sha, sa, ha.

Development of Nāgarī From 11th Century To 13th Century A.D:

The following observations are made regarding the development of Nāgarī from the 11th century to the 13th century A.D.

A The type of a - अ already seen is in general use now. But another shape- अ now used . in the Bombay Printing occurs in Modasa, Kalvan, Navasari, Kharepatan

and Ambarnath inscriptions,[1] all coming from Gujarat and Maharashtra.

I Side by side with the old form ( ), a new form where lower curve becomes a tail appended to the left circle and a head-line is developed - appears earliest in the Mandhata copper plate of 1055 A.D.[2] The modern looking shape - - caused by the single movement of the pen is occasionally met with as in the Abu inscription of 1230 A.D.[3]

Ī The long initial Ī is represented by placing an additional hook at the top of short i, thus - as in the Prince of Wales Museum copper plate of A.D. 1049.[4] A more advanced shape where a head-line is developed - occurs in the Timana grant of 1207 A.D.[5] which also shows the modern form of ī- for the first time.

Ū Absolutely modern-looking form of ū with long top-stroke is usually met with as in the Navasari grant A of 1074 A.D.[6]

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1. E.I., XXXIII, pl. between pp. 196-97.
   E.I., XIX, p. 69.
   J.B.B.R.A.S., XXVI, pls. 264, a, b, c, d, e.
   I.A., IX, pls. between pp. 32-32, 34-35.
   J.B.B.R.A.S., IX, pl. facing p. 219.
2. E.I., III, pl. facing p. 50, l.13.
3. E.I., VIII, pl. facing p. 212, l.2.
4. E.I., XXV, pl. between pp. 56-7, l.6.
5. I.A., XI, pl. between pp. 338-39, l.15.
6. J.B.B.R.A.S., XXVI, pl. 264a, b, c, l.32.

Ṛi Ṛi as seen in the Mangrol inscription of 1145 A.D.[1] is shaped thus -ऋ which seems to be the precursor of the modern ṛi - ऋ used in the Bombay Printing. Another form - ऋ - is met with in the Mandhata copper plate of 1274 A.D.[2] where the vertical part of the hook extends to the top level. This type with a little appendage at the bottom - ॠ - prevails in the Calcutta printing.

E E with tail is common now but the one without tail survives as late as in the Mangrol inscription of A.D. 1145.[3]

Ai The form of ai, mostly shows a longer tail and a simple top-stroke - ै in the Nāgarī inscriptions.

O In the Abu inscription no. ii of 1230 A.D.,[4] a new shape of o appears where appendage is added at the top of the sign of u thus - ॐ where as it was appended in the middle in the post-Gupta period.

Au The form of au has advanced in the way that a top-line has been developed - ौ as in the Mandhata copper plate of 1274 A.D.[5]

Kha The modern looking form of kha is developed in the

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1. Bhavanagar Inscriptions, pl. xxxvii, l.3.
2. E.I., XXXII, pls. between pp. 148-49, 150-51, 154-55 and facing p. 156, l.96.
3. Bhavanagar Inscriptions, pl. xxxvii, l.6.
4. E.I., VIII, pl. facing p. 222, l.15.
5. E.I., XXXII, pls. between pp. 148-49, 150-51, 154-55, and facing p. 156, l.122.

end of the eleventh century A.D. and appears in the Navasari grant A of 1074 A.D.[1] The form with the flattened top but archaic left limb remains in use upto the first half of the eleventh century in the Paramāra inscriptions and upto the end of the eleventh century in the Śilāhāra inscriptions.

Gha The old form with notched part downwards (घ) occurs side by side with the new shape having shifted notch to the left, thus, घ as can be seen in the Kharepaṭan copper plate of 1094 A.D.[2]

Na Na retains its old form.

Cha The shape of cha undergoes change by its upper curve becoming horizontal and protruding to the left thus - च्‌ (chū). It is only met with occasionally as in the Prince of Wales Museum copper plate of 1049 A.D.[3]

Chha The tailed form of chha becomes more frequent now though the one without tail remains in use upto the 13th century A.D. as can be justified by its appearance in the Abu inscription no. ii of 1209 A.D.[4]

Ja The modern-shaped ja is seen for the first time in this period. In this shape, the neck and hook on the right are made to coalesce into a single vertical line

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1. J.B.B.R.A.S., XXVI, pl. 264 a, b, c, l.18.
2. I.A., IX, pl. between pp. 32-33, l.11.
3. E.I., XXV, pl. between pp. 56-57, l.4.
4. E.I., VIII, pl. facing p. 222, l.28.

thus -ञ्ज . It is met with in the Itaunja copper plate of 1129 A.D.[1] side by side with the older one.

Jha The form of jha shows an advancement by developing a long head-line thus - झ्र (rjha) - as in the Machhalishahr-Jaunpur inscription of 1196 A.D.[2] It seems to be the precursor of the modern shape -झ where left-hand part is drawn in a continuous movement of the hand. In another shape the upper part of the right hand vertical disappears leaving a downward hook - झ - as in the Veraval inscription of Valabhi Saṁ.927.[3] It survives in Jain-Nāgarī to the present day.

Ña The modern-looking form of ña is developed in the Serpobandhi pillar inscription.[4] It has been evolved by curving the end of the central vertical to the left and projecting the vertical part of the right hand hook downwards -ञ . Absolutely Nāgarī form of the letter is used in combination with j -ञ्ज (ñjaḥ) - in the Barla inscription of 1177 A.D.[5]

Na The modern-looking form of na as seen in the preceding period becomes of common use from the latter half of the eleventh century A.D.

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1. E.I., XIII, pl. facing p. 297, l.12.
2. E.I., X, pl. facing p. 98, l.11.
3. E.I., III, pl. facing p. 306, l.5.
4. J.B.B.R.A.S., XXI, pl. facing p. 350.
5. E.I., XXXII, pl. facing p. 303, l.7.

Ta The older form of ta survives upto the middle of the eleventh century A.D. as can be seen in the Kara stone inscription of 1036 A.D.[1]

Tha The modern Nāgarī form of tha - ठ - where upper loop has been detached from the vertical starts appearing in the latter half of the eleventh century. It can be seen in the Navasari copper plate B of 1074 A.D.[2] The older form survives upto the thirteenth century A.D.

Dha Side by side with the old form (ध), a more advanced shape is developed by adding an additional oblique stroke in the upper angle thus - ध . It occurs in the Navasari copper plate B of 1074 A.D.[3]

Na The Nāgarī form of na becomes frequent though the older one survives upto the first half of the eleventh century A.D.

Pha In the eleventh century, a more advanced shape of pha is met with where the right-hand limb is shifted downwards thus - फ which can be seen in the Palied copper plate of 1034 A.D.[4] In a still more advanced and modern-looking shape, the appendage on the right reduces to a single hook - फ (phū) as in the Chandravati copper plate of 1090 A.D.[5]

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1. J.R.A.S., 1927, pl. facing p. 694, l.8.
2. J.B.B.R.A.S., XXVI, pl. 264 d, e, l.8 (thā).
3. Ibid., l.8.
4. E.I., XXXIII, pl. facing p. 236, l.13.
5. E.I., IX, pl. facing p. 304, l.17.

Ba The Nāgarī form of ba as already seen in the Ahar stone inscription is used in the records of Chaulukyas of Gujarat while Paramāra inscriptions retain va for ba.

Bha A new form of bha is evolved from the old one (भ) by straightening the hook on the right thus - भ as in the Mandhata copper plate of 1055 A.D.[1] The old form appears side by side though occasionally upto the beginning of the thirteenth century A.D.

Śa Śa appears in two shapes. The older form with the inward loop is retained upto the latter half of the eleventh century A.D. The typical form of śa - श now used in Bālbodh Devanāgarī is first seen in the Veraval inscription of Bhīma II.[2]

Medials: The Nāgarī form of medial ū as met with occasionally in the preceding period becomes quite common now. Regarding the medial signs of e, ai, o, au, the use of pṛishṭhamātrā is retained in the records of Paramāras and Chaulukyas upto the thirteenth century whereas it is discarded from the Nāgarī of Chāhmānas and Gāhaḍavālas from the last quarter of the 12th century.[3]

Conjuncts A new tendency of writing conjuncts in a horizontal line by deleting the right hand vertical stroke of the first consonant is evident in case of त्म (tma)

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1. E.I., III, pl. facing p. 50, l.1.
2. E.I., XXXIII, pl. facing p. 120, l.7.
3. see pls. IX, a-d.

in the Delhi Śivalik pillar inscription of 1163 A.D.,[1] स्मि (smi) in the Visalpur inscription of 1187 A.D.,[2] श्ये (śye) in the Madanpur inscription of A.D. 1182[3] and ज्ञ्य (knya) in the Sambhar inscription.[4]

Jña The modern form of jña - ज्ञ - occurring in the Abu inscription no. ii of 1230 A.D.[5] seems to have been developed from the form - ज्ञा (jñā) which appears in the Bhadana copper plate of 993 A.D.[6] by reducing the lower semicircular curve of ña into a stroke.

Śra An advanced form of the conjunct śra - श्र is developed in the Jhusi copper plate of 1027 A.D.[7] by leaving the lower stroke of the left limb of śa (श). A still more advanced and modern shape is evolved by joining the loop with the vertical line श्री (śrī) as in the Navasari grant B.[8]

Ksha Ksha is usually of the same shape - क्ष in all the Nāgarī inscriptions. Only occasionally, the older form - क्ष occurs as in the Berlin Museum copper plate of 1035 A.D.

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1. I.A., XIX, pl. facing p. 218, pt. A, l.3.
2. Cunningham, A.S.R., VI, pl. xxi, l.3.
3. Ibid., X, pl. xxxii, no. ix, l.1.
4. I.A., LVIII, pl. between pp. 234-35, l.17.
5. E.I., VIII, pl. facing p. 222, l.3
6. E.I., III, pl. between pp. 272-73, l.72.
7. I.A.,XVIII, pl. facing p. 34, l.1.
8. J.B.B.R.A.S., XXVI, pl. 264, d, e, l.8.

In the period of eleventh to thirteenth century, the letters i, ī, kha, gha, cha, ja, ña, tha, pha show further advancement and have attained the complete Nāgarī shapes, besides those already seen in the previous period.

Final Development:

We have studied above in detail the forms of the Nāgarī characters as they appear in the inscriptions upto the thirteenth century A.D. Now we shall see the development of those characters which are yet to undergo change to become modern-looking.

I The old form becomes obsolete and only modern-looking i is met with now.

O It is interesting to notice the modern shape of initial o - ओ - in the Dantewara inscription of 1803 A.D.[1] which is formed by adding the medial sign of o to the initial a.

Na Na does not occur in these inscriptions.

Cha The old beaked form of cha - च survives upto the fifteenth century as can be testified from its appearance in the Chitor inscription of 1448 A.D.[2]

Chha A new and modern looking form of chha - छ (chhu) is met with in this period. In this shape, the loop on the

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1. E.I., XII, pl. facing p. 246.
2. Cunningham, A.S.R., XXIII, pl. xx, l.3.

left is doubled as can be seen in the Chitor inscription of 1448 A.D.[1]

Ja Ja is usually modern shaped though the older form lingers on even upto the fifteenth century as in the Rāsin or Rājavāsini inscription of 1409 A.D.[2]

Jha No example of jha is to be found in these records.

Dha The modern-looking shape of dha is evolved where the left-hand appendage is detached from the vertical stroke thus -ध in the Dantewara inscription of 1703 century A.D.[3]

Bha The new and advanced shape of bha appears in the Gaya inscription of 1459 A.D.[4] where part of the left stroke below the horizontal bar has been reduced. A still more advanced and modern Nāgarī form of the letter is developed by the introduction of a loop in the left limb, thus - भ as in the Dantewara inscription of 1703 A.D.[5]

Conjuncts: The shape of ksha now used in the Bombay printing is found in the Chitor inscription of 1448 A.D.[6] It seems to have been formed by shifting the neck of the

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1. Cunningham, A.S.R., XXIII, pl. xx, l.3.
2. Cunningham, A.S.R., XXI, pl. xiv.
3. E.I., XII, pl. facing p. 246, l.3.
4. Cunningham, A.S.R., LII, pl. xxxix, l.2 (vertically).
5. E.I., XII, pl. facing p. 246, l.2.
6. Cunningham, A.S.R., XXIII, pl. xx, l.13 (kshi).

old form (ग) to the right making it to coalesce with the hook on the right. The other conjunct noticeable is tra - त्र where t reduces to a bar as seen in the Masar inscription of V.S. 1876[1] (1819 A.D.).

We have studied above in detail the development of Nāgarī on chronological basis. All the characters except ṛi, ṝ, au, ña, jha appear in full-developed Nāgarī forms.

1. Cunningham, A.S.R., III, pl. XXIV, l.3

CHAPTER 11

THE REGIONAL DEVELOPMENT OF NĀGARĪ

The paleographical material in Nāgarī has been examined with reference to chronological repartition. Now it will be our endeavour to see how Nāgarī followed the course of evolution in different localities.

We shall try to find out the distinguishing marks which later characterise Nāgarī as Jain-Devanāgarī among the Jain-sect, Nandīnāgarī in the Kanarese country and Bālbodh in Maharashtra.

We shall also try to find out the similarities and differences of Nāgarī with the neighbouring scripts i.e. Bengali, Śāradā and old Kanarese in the East, North and South respectively. The study of Jain-Nāgarī, Nandīnāgarī and Bālbodh shall be pursued in the next few chapters.

Now for the study of the regional development of Nāgarī, it can be classified into five divisions geographically, as follows:

a. Nāgarī of the Western coast.
b. Nāgarī of Central India.
c. Nāgarī of Gujarat.
d. Nāgarī of Rajasthan.
e. Nāgarī of the Ganges Valley.

There is bound to be some overlapping, in this arrangement, for it is difficult to fix exactly where the limit of one type ends and that of the other begins. The Nāgarī of Gujarat is not restricted to Gujarat and may be found in use in some places situated in Rajasthan and Central India in the inscriptions of Chaulukyas.[1] Similarly, the Nāgarī of Central India is seen in Gujarat in the Paramāra inscriptions.[2] In this way, the style of a particular region was imported into other regions, as a result of political influences and sometimes, even, influenced the writing of those regions.

For studying the comparative development of Nāgarī in the regions mentioned above we would first deal with its earliest phase i.e. the ninth and tenth century A.D.

On comparing the Nāgarī alphabet used in these regions, the following points come to notice:

1. At all the places the shapes of u - उ , ka - क , ṭa - ट , ḍha - ढ , da - द , ra - र , la - ल , va - व ha - ह , superscript r - ◌ , subscript r - ◌ , medials

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1. (a) Abu stone inscriptions of V.S. 1287, E.I., VIII, pl. facing p. 212, & 222.
   (b) Sambhar Inscription, I.A., LVIII, pl. between pp. 234-35.
   (c) Udaypur Inscription, V.S. 1220, I.A., XVIII, p. 341.
   (d) Ujjain (C.I.) fragmentary stone Inscription of V.S. 1195, I.A., XLII, p. 258.
2. (a) Ahmedabad copper plate of V.S. 1026, E.I., XIX, p. 236.
   (b) Modasa Copper plate of V.S. 1067, E.I., XXXIII, p. 192.

ā - ा , i - ि , ī - ी , u - ु , and ri - ृ closely resemble the corresponding letters in modern Nāgarī. Forms of ja - ञ , ṇa - ण , tha - ठ and gha - घ may be called proto-Nāgarī forms; of i - ै , ña - ट , cha - च , chha - छ , jha - झ , dha - ढ , bha - भ are archaic.

2. The Nāgarī of Central India presents the full developed Nāgarī forms of ṇa - ण , tha - थ , śa - श and medial ū - ू which are absent in other regions.

3. The Nāgarī of the Ganges valley exceptionally preserves the bottom curve for the lengthening of ā - ा. Now follow, the details of the Nāgarī of each region.

The Nāgarī of the Western Coast:

The Nāgarī of the western coast in its full developed form is first seen in the records of Śilāhāras.

The representative inscriptions of this region are:

1. Kaṇheri inscriptions (Thana district) of A.D. 851, 877.[1]

2. Baroda Museum copper plate (Kolaba district) of A.D. 994 (Grant A and Grant B).[2]

3. Bhādāna copper plate (Thana district) of A.D. 998.[3]

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1. Bühler's Plate, V, col. v.
2. Important Inscriptions from Baroda, I, pls. v-x.
3. E.I., III, pl. between pp. 272-73.

Besides the forms of the letters, already noticed, which are commonly used in all the regions, we find the following peculiarities in the Nāgarī of this area.

1. a - अ and ā - आ are perfectly modern-looking.

2. E occurs sometimes with a tail - ऍ , and sometimes without a tail - ऎ .

3. The forms of ai, o, au do not occur.

4. Side by side with the old form of kha and ga, the new modern-looking forms - ख , ग are seen in Bhādāna copper plates.

5. Gha - घ with short central bar prevails.

6. Tha - ठ - is modern-looking.

7. Both the old and new forms of da - ऱ , ड are preserved.

8. Na appears in its old shape - ण .

9. Ta - त is of Nāgarī shape.

10. Tha is double looped - थ .

11. The old form of na- ऩ occurs side by side with the new - न .

12. Pa - प , ma - म , ya - य are always fully developed Nāgarī forms.

13. Śa - श retains its archaic form.

14. Sha - ष appears.

15. Sa occurs in two forms - ऴ , स .

16. Medial ū retains its old shape - ु .

17. The medials e, ai, o, au are shown by top strokes ◌ॅ , ◌ॆ , ◌ॊ , ◌ॏ as well as side strokes ◌ॅ , ◌ॆ , ◌ॊ , ◌ॏ .

The Nāgarī of Central India:

The Nāgarī of Central India as is represented by the Paramāra records is bold and broad and very much uniform in shape. The calligraphic effect of Paramāra Nāgarī is such that it can be recognised at a first glance. Our study of Central Indian Nāgarī is based on the following inscriptions:

1. Harsola copper plate (A & B) of 949 A.D.[1]
2. Ahmedabad copper plate of 969 A.D.[2] (Grant of Paramāras found in Gujarat but displays Central Indian Nāgarī).
3. Ujjain copper plate of 974 A.D.[3]

Its characteristics are noted below:

1. a and ā are of Nāgarī form.
2. Both the forms of E with tail and without tail are met with.
3. The shapes of ai, o, au do not occur in the records of this period.
4. Both the new and old shaped kha and ga are found.

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1. E.I., XIX, pls. facing pp. 242 and 243.
2. Ibid., pl. facing p. 178.
3. I.A., VI, pls. facing pp. 51 and 52.

5. Gha with short and long central bar appears side by side.

6. Ṭha and ḍa are perfectly modern looking.

7. Side by side with the old form of ṇa, the Nāgarī shape - ण is found in the Harsola copper plate B in श्रेणय in l.1.

8. Ta appears in two shapes, the old - ऩ and the new one - त .

9. Tha - थ with detached upper loop appears in the Harsola copper plate B.

10. Na - न is invariably old shaped.

11. Pa, ma, ya are of Nāgarī shape.

12. Side by side with the old form of śa, the Nāgarī form of the letter - श appears in the Harsola copper plate B in l.1.

13. Sha is modern-looking.

14. Both the old shaped and modern-looking forms of sa - ष , स are found.

15. The modern-looking medial ū appears in the Harsola copper plate A in chū - चू .

16. The medials e, ai, o, au are sometimes represented by top-strokes and sometimes by side strokes.

The Nāgarī of Gujarat:

The Nāgarī of the 9th, 10th century A.D. in Gujarat is represented by the Balera grant of Chaulukya Mūlarāja I[1].

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1. E.I., X, pl. facing p. 78.

Another grant from this region, the Ahmedabad copper plate displays the Nāgarī of Central India. So we shall only study the peculiarities of Balera Grant.

Balera grant presents typical top-marks made of two curved lines -˜ . Other characteristics are:

1. The oblique stroke at the bottom of a and ā does not appear.

2. E, ai, o, au do not occur.

3. Kha -ख and ga - ग are of proto-Nāgarī shape.

4. Gha has a shorter central bar.

5. Tha is only found in a conjunct.

6. Da is modern-looking.

7. Na is old-shaped.

8. Both the forms of ta, the old and the new are met with.

9. Tha is double-looped.

10. Na appears in old as well as new form.

11. Pa, ma, ya are modern-looking.

12. Śa is old-shaped.

13. Sha and sa are of Nāgarī shape.

14. Medial u is old-shaped.

15. Both the shapes for medial e, ai, o, au, the side strokes and top-strokes are found in use.

The Nāgarī of Rajasthan:

Only two inscriptions i.e. the Harsha inscription

of Chāhmāna Vīsaladeva dated 973 A.D.[1] and Partabgarh stone inscription of 946 A.D. of Pratihāra Mahendrapāla II,[2] are at hand from Rajasthan. Although it does not present the full-developed Nāgarī as the heads of a, ā, pa, sa, ma, ya are sometimes covered and sometimes uncovered, still it will help in studying the development of Nāgarī in this region.

1. The heads of a and ā are open and the little oblique stroke is still missing.
2. The forms of e, ai, o are not found.
3. Au is shaped thus - ॐ .
4. The left limb of kha and ga are archaic.
5. Gha has a long dividing line.
6. Ṭha is used without head-line.
7. Ḍa, ṇa, ta are old-shaped.
8. Tha is sometimes double-looped and sometimes single-looped with the upper loop detached from the vertical.
9. Na is old-shaped.
10. Ra is of Nāgarī shape.
11. Ma and ya have open head.
12. Śa is archaic.
13. Sa is sometimes open-headed and sometimes close-headed.
14. Medial ū remains old-shaped.

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1. E.I., II, pl. facing p. 240.
2. E.I., XIV, pl. facing p. 185.

15. The side strokes for the medials e, ai, o, au have not been developed as yet.

The Nāgarī of the Ganges Valley:

The script used in the Ganges valley in the ninth century is not Nāgarī though a number of Nāgarī forms and tails in all the letters appear. It is only in the Bengal Asiatic Society grant of Vināyakapāla of 931 A.D.[1], representing this area that we find all the characteristics of Nāgarī. The Nāgarī of this region presents the following peculiarities:

1. The lengthening in ā is shown at the bottom - ञ्र .
2. E is modern-looking.
3. The forms of ai, o, au are not met with.
4. Kha and ga have rounded tops and have yet to evolve Nāgarī forms.
5. Gha, tha and ḍa are not found.
6. Na is old-shaped.
7. Ta is of Nāgarī shape.
8. Tha is old-shaped.
9. Na is peculiarly formed - ग .
10. Pa, ma, ya are modern-looking.
11. Śa is old-shaped.
12. Sha, sa are of Nāgarī form.
13. Medial ū is old shaped.
14. Side-strokes for medials e, ai, o, au have not been yet developed.

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1. I.A., XV, pl. facing p. 140.

The comparative study of the Nāgarī inscriptions of the regions above mentioned during the 11th to 13th centuries brings out the following salient points:-

1. The hook of o is attached in the middle in Central India thus - ओ and at the top - ओ in Gujarat.

2. The shape of au as found in Central India, Gujarat and Ganges valley is same.

3. The forms of ña and chha remain unchanged.

4. The form of jha - झ used in the Ganges valley is different from the one seen in Central India and Gujarat and seems to be the precursor of the modern shape (झ) used in Calcutta printing.

5. The advanced form of dha - ध appears in the eleventh century in all the regions.

6. Pha has usually the right hand appendage attached in the middle instead of the top.

7. The Nāgarī form of ba is found only in Gujarat. In Central India and Ganges valley, it is represented by va but in the Ganges valley, the old square form with the right hand vertical elongated downwards - ब also appears.[1]

8. The new form of bha - भ is met with everywhere except Gujarat where it appears only in the middle of the 12th century A.D.

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1. I.A., XVIII, pl. between pp. 130-31, l.9.

9. The subscript ya with the vertical on the right - व्य (vya) is found in Central India and Gujarat in the 11th century but a century later in the Ganges valley. In the inscriptions of the 11th century from the western coast, the old shape is met with. (We have not been able to find its shape in the 11th century in Rajasthan).

Now follow, the details of the Nāgarī of each region.

The Nāgarī of the Western Coast:

1. The newly developed form of cha - च्ू (chū) is first seen in the Prince of Wales Museum copper plate.[1]

The Nāgarī of Central India:

From the alphabetic charts given in the stone inscriptions from Dhar of the reign of Udayāditya[2], we know the shapes of the letters rarely found such as o, au, ṛi, ṛī, ḷri, ḷrī and jha.

1. The form of a, ā occurring in the Modasa and Kalvan plates is preserved in the Bālabodha alphabet.

2. The form of initial o - ओ is the same as seen in the Mungar copper plate of Devapāla.

3. Ṛi, ṛi, ḷri, ḷri are written thus - ऋ , ॠ , ऌ , ॡ .

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1. E.I., XXV, pl. between pp. 56-57.
2. E.I., XXXI, pl. facing p. 28.
   J.B.B.R.A.S., XXI, pl. facing p. 350, No. I.

4. Perfectly modern-looking form of ña is met with.

5. The Nāgarī form of ja is found though occasionally.

The Nāgarī of Gujarat:

1. The Nāgarī form of i, ī, ba and ja are found.

2. The shape of ri - ऋ is different from the one seen in Central India and seems to be the precursor of the ri - ऋ used in the Bālabodha alphabet.

The Nāgarī of the Ganges Valley:

1. The Nagari form of ja is seen in the Itaunja copper plate of 1129 A.D.[1] where the older form, also appears side by side.

The Nāgarī of Rajasthan:

The only thing to be noticed is the shape of ña which is perfectly modern-looking in the Barla inscription.[2]

The development of the Nāgarī alphabet after the 13th century A.D. as we find in the inscriptions from the Ganges valley, Rajasthan and Central India is uniform. In Gujarat, it was further developed into Gujarati. In Maharashtra, a cursive form of Nāgarī,

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1. E.I., XIII, pl. facing p. 297, l.12.
2. E.I., XXXII, pl. facing p. 303, l.7 (jña).

called Moḍi was evolved for daily use.

Now we shall find out the resemblance of Nāgarī letters with those of the neighbouring scripts* i.e., Śāradā and Nepali in the North, Bengali and Uriya in the East, Telegu in the South and Modi and Gujarati in the West.

The Śāradā alphabet has the shapes of u - उ , ū - ऊ , ga - ग , na - न , ya - य , va - व common with Nāgarī and of gha - घ , ṅa - ङ , ṭha - ठ , ba - ब , pha - फ , ma - म , śa - श , sha - ष common with proto-Nāgarī.

In Nepali script, the forms of u - उ , ka - क , kha - ख , ga - ग , gha - घ , cha - च , ṭa - ट , ṭha- ठ (ठ), tha - थ , da - द , dha - ध (ध), na - न , pa - प , ma - म , ya - य , la - ल , va - व , sha - ष , sa - स , ha - ह and of medials a, i, ī, u, ṛi are as we have in Nāgarī.

In the eastern neighbouring script Bengali, the letters ka - क , ga - ग , gha - घ , tha - थ , ya - य , ma - म , la - ल (न) have some resemblance with corresponding Nāgarī letters though they are not exactly

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*The present study is based on the plates given by Dr. Filliozat in his article "Paléographie" in L'inde Classique at pages 390-95.

alike. The forms of pha - ૟ , dha - ધ , śa - ૐ agree with proto-Nāgarī shapes. The use of side strokes for medials e, ai, o, au survives in the Bengali script whereas dropped from the Nāgarī script.

Ga - ગ , gha - ઘ and tha - થ in Uriyā resemble the corresponding Nāgarī letters.

The Gujarati and Modi scripts have a number of letters similar to the Nāgarī ones.

The forms of ṛi - ઋ , ga - ગ , gha - ઘ , ṅa - ઙ , chha - છ , ña - ઞ , ṭa - ટ , ḍa - ડ , ṇa - ણ , ta - ત , tha - થ , dha - ધ , na - ન , pa - પ , ma - મ , ya - ય , ra - ર , va - વ , śa - શ , sa - સ in Gujarati are nothing but Nāgarī letters without head-line.

In Modi and Nāgarī scripts, we find common shapes for ri - ऋ, lri - ऌ , ga - ग , gha - घ , cha - च , chha - छ , jha - झ , ña - ञ , ḍha - ढ , ṇa - ण , ta - त , tha - थ , ma - म , ya - च , śa - श , sha - ष and medials ā, ī, u, ṛi, e, o.

We have thus examined in detail the forms of the Nāgarī characters employed in the inscriptions of different regions. We have also seen that the shapes of a number of Nāgarī letters closely resemble the corresponding letters of its neighbouring scripts.

CHAPTER 12

NĀGARĪ IN MANUSCRIPTS

We have noticed above that the use of Nāgarī script in inscriptions dates from the middle of the ninth century A.D. The use of this alphabet in manuscripts, however, is not known until the tenth century when we find it first used in a manuscript, namely, Rāmakṛishṇa-chatushpadī of V.S. 1015, the provenance of which is unknown.

We shall now see the development of Nāgarī as found in the manuscripts along with the variations shown with the forms of the inscriptions.

The development of the script is being noticed under three divisions: the earliest phase (10th century A.D.), the development of the alphabet in the 11th to 13th centuries A.D., the final development.

A. The Earliest Phase:

The earliest ms. Rāmakṛishṇachatushpadī represents this period. It presents the following characteristics:

1. It displays the completely developed Nāgarī forms of a, ā, i, ī, u, ū, e, ka, ga, gha, cha, ja, ṭa

dha, ṇa, ta, tha, da, na, pa, pha, ba, ma, ya, ra, la, va, śa, sha, sa, ha, medials ā, i, ī, u, ū, e, o, au, conjuncts tra and tta.

2. Ri, ai, o, au, kha, ṅa, jha, ña, ṭha, medial ṛi and ai are not met with in this folio.

3. The letters chha, ḍa, tha, dha, bha still retain proto-Nāgarī shapes.

4. The writer of Rāmakṛishṇachatushpadī uses much more advanced forms as compared with the characters of manuscripts of even a later date such as Niśīthasūtrabhāshya of V.S. 1146, Sukhbodha of V.S. 1164, and Aṅgavidyā of V.S. 1292.

The comparison of the script of Rāmakṛishṇachatushpadī with the contemporary inscriptions i.e. the Harsola copper.plate inscription of V.S. 1005 and Ahmedabad copper plate of V.S. 1026 close to its date yields the following information:

1. The inscriptions display older shapes of ā, i, gha, cha, ja, na, pha and sa.

2. In inscriptions, the old as well as modern forms of u -उ,उ ; e -ए,ए ; ga -ग,ग ; ṇa -ण,ण ; ta -ऩ,त ; tha -ष, थ ; śa -श, श are found where as our ms. shows only modern shapes.

3. Like the ms., inscriptions also retain the archaic shapes of chha - ɸ , ḍa - ऱ , tha -थ , dha - ध , bha - भ .

DEVELOPMENT OF NĀGARĪ IN MSS. IN 11th TO 13th CENTURIES A.D.

The representative mss.* of this period are following:

1. Niśīthasūtrabhāshya of V.S. 1146.
2. Sukhabodha (Āmaleśvaragrāma) of V.S. 1164.
3. Aṅgavidyā of V.S. 1292.
4. Piṇḍaviśuddhi of V.S. 1300.
5. Uttarādhyayanasūtra of V.S. 1332.

Now we shall see the development of Nāgarī as it appears in the manuscripts and also the variations in forms in the inscriptions and the manuscripts.

A, Ā — Initial a and ā are always modern-looking.

I — The Nāgarī form of i - ऽ - which is occasionally met with in the inscriptions is more common in the manuscripts and is found in Piṇḍaviśuddhi (fol. 78^{b}, l.2) and in Pratilekhaṇagāthā (fol. 19, l.5). The older type - ऽ - appears in the Niśīthasūtrabhāshya (fol. 6^{b}, l.2), and the intermediate one with detached lower stroke - ऽ - occurs in Sukhabodha (fol. 120^{a}, l.1), in Aṅgavidyā (fol. 34^{a}, l.2), and in Uttarādhyayanasūtra (fol. 54^{b}, l.1).

Ī — The initial long ī is not met with in these folios.

u, ū — The typical form of u and ū, which is still preserved in Jain-Nāgarī is found where the central

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*Provenance of these manuscripts except Sukhabodha is not available.

stroke is slightly hooked thus ઉ , ઋ as in Piṇḍaviśuddhi of V.S. 1300 (fol. 78^{b}, 1.2).

Ri The initial ṛi does not occur in these folios.

E Except the form of e (∇) in the Niśīthasūtra (fol. 1^{b}, 1.1), the letter is modern-looking in the mss.

Ai The shape of ai is not found in these folios.

O Two forms of o are met with. One of them -ʒ - has already been seen in the Abu inscription of Chaulukyas. The other one -ʒ - as seen in Aṅgavidyā (fol. 34^{a}, 1.1) is quite distinct from the first one.

Au Au does not occur.

Ka The modern-looking form of ka is found both in the mss. and inscriptions.

Kha, ga Kha -ख - and ga -ग - are invariably modern-shaped while in the inscriptions their proto-types are seen side by side.

Gha Except Pratilakhaṇagāthā, all the manuscripts display Nāgarī form of cha -घ - which occurred only occasionally in the inscriptions.

Na Na is not met with.

Cha Cha without the protruding horizontal line is common in these mss. as in Aṅgavidyā of V.S. 1292 (fol. 34^{a}, 1.1).

Chha Chha remains unchanged.

Ja The proto-Nāgarī form of ja - ज - is more common than the Nāgarī form - ज - which appears in Piṇḍaviśuddhi (fol. 78^{b}, 1.2).

Jha, Ña Jha and ña are not found in these folios.

Ṭa Ṭa is modern-shaped as in the inscriptions.

Ṭha Ṭha is modern-looking.

Ḍa A peculiar form of ḍa - ड - which is still preserved in Jain-Nāgarī appears. The modern-looking form is seen in Piṇḍaviśuddhi (fol. 78^{b}, 1.2).

Ḍha Ḍha is always modern-looking.

Ṇa Ṇa is always of Nāgarī form.

Ta Double-curved ta (त) is never seen in the mss. but it is commonly found in the inscriptions.

Tha, da Tha and da are always modern shaped.

Dha The older form of dha without upper oblique stroke which usually occurred in the inscriptions has disappeared from the mss. with the exception of Niśīthasūtra where both the forms are met with in 1.1 and 2 respectively.

Na Na - न - is invariably of present shape.

Pa Pa - प - is always modern shaped.

Pha The appendage on the right to make pha from pa always starts from a point below the top - फ in these mss. while the older form - फ - with its appendage starting from the top is also commonly seen in the inscriptions.

Ba Ba as it appears in Aṅgavidyā is perfectly modern.

Bha Bha appears in two shapes (भ , भ) both of which have already been noticed in the inscriptions.

Ma, ya, ra Ma, ya, ra are modern-shaped.

La Present Marathi la - ल - where a part of the right vertical becomes curved in continuation with the left appendage, occurs in Pratilekhaṇagāthā (fol. 19, l.5). In other mss., the modern Nāgarī form is met with.

Va Va is perfectly modern-looking.

Śa Śa appears in two shapes. One of them - श with the small vertical line above the left limb appears in Piṇḍaviśuddhi V.S. 1300 (fol. 78^{b}, l.2), and the other without vertical stroke can be seen in Sukhabodha of V.S. 1164 (fol. 120^{a}, l.).

Sha, sa, ha Sha, sa, ha always consist of Nāgarī form.

Medials The medials ā, i, ī, u, ū appear in the modern Nāgarī form. The medials e, ai, o, au are sometimes represented by top-strokes and sometimes by side strokes.

Conjuncts: Besides the modern-shaped conjuncts jña, ksha and śrī which have already been seen in the inscriptions, modern looking śva - श्व - and tta - त्त appear in Pratilekhaṇagāthā (fol. 19, ll. 3, 5). Tendency of writing the elements of conjuncts in a horizontal line is seen in śchi - श्चि - of Sukhabodha (fol. 120^{a}, l.1).

Hal The sign of hal generally touches the bottom of right vertical - ल् (t) as in Pinḍaviśuddhi (fol. 78^{b},l.3).

FINAL DEVELOPMENT:

As we have seen above, the Nāgarī script of the thirteenth century preserves archaic shapes of a number of letters which undergo change to become perfectly modern-looking. The following mss. have been taken to study the final development of Nāgarī:

1. Rigveda (Iladurga) V.S. 1418.
2. Sūyagaḍāṁgasūtra Bālāvabodha V.S. 1645.
3. Jñātādharma Kathāṁgam V.S. 1812.
4. Aṁtagaḍadaśāṁgasūtra V.S. 1849.
5. Upāsakadaśāṁgasūtra Ś.Y. 1723.
6. Bhagavatī Sūtra V.S. 1870.
7. Āpastaṁbadarśapaurṇamāsa V.S. 1901.

The further developments have been noticed in the following characters:

I, Ī Perfectly modern-looking forms of i and ī are found in Rigveda. In the contemporary inscriptions, the older form is more common.

Ri The rarely occurring letter ri - ऋ appears in the Bhagavatīsūtra of V.S. 1870 and is of the same shape as already noticed in the records of the Chaulukyas.

O The original form of o -ओ- is preserved in the Jain-mss. as in Upāsakadaśāṁgasūtra of Ś.Y. 1723. In Nāgarī,

the new form arising from the combination of a and medial o comes into use which has already been seen in the Dantewara inscription of Dikpāladeva.

Chha The form leading to Nāgarī chha - छ - appears in Ṛigveda. The jain-mss. present a peculiar type consisting of the appendage on the left side of the vertical ज as can be seen in the Sūyagaḍāṁgasūtra Bālāvabodha of V.S. 1645.

Ja The proto-Nāgarī form of ja is preserved in the Jain mss. upto the latter half of the 16th century and in conjuncts even upto the eighteenth century as in the Upāsakadaśāṁgasūtra of Ś.Y. 1723.

Jha Jha as it appears in the Aṁtagadadaśāṁgasūtra of V.S. 1849 retains the old shape - झ as already seen in the inscriptions of the eleventh-twelvth centuries.

Tha Side by side with the Nāgarī form of tha, a new form with the lower circle on the left side of the vertical appears. This form is confined to Jain-mss. and can be seen in the Jñātā - dharmakathāṁgaṁ of V.S. 1812.

Da Two forms of da - ऋ , ड are met with. The former is a peculiarity of Jain-Nāgarī though the latter i.e. the Nāgarī form becomes common in Jain-mss. also as can be seen by its use in the Upāsakadaśāṁgasūtra of Ś.Y. 1723.

Bha A new and advanced shape of bha - भो (bhe) is met with in Ṛigveda mss. of V.S. 1418 where the part of the

left stroke, below the horizontal line has become less prominent. The older form survives in Jain-Nāgarī upto the eighteenth century as can be judged by its appearance in the Jñātādharmakathāṁgam of V.S. 1812. Afterwards, the Nāgarī from replaces it.

Medials: Ordinarily, the medials ā, i, ī, u and ū are of the same shape as we have in modern Nāgarī. But the combination of medial u with d - ु (du), h - ु (hu), and that of medial ū with r - ृ (rū), st - ृ (stū) and s - ृ (sū) is peculiar and confusing in Jain-Nāgarī.

The pṛishṭhamātrā in case of medials e, ai, o, au is preserved upto the sixteenth century in Jain-mss. whereas it disappears from the classical Nāgarī a century earlier.

Conjuncts: The symbols of certain conjuncts in Jain-Nāgarī are worth notice such as द्री (drī), ज्ज (jja), क्ख (kkham), ज्झि (jjhi), द्ध (ddha), र्ण (rṇṇa), ट्ठ (ṭṭha), द्रू (drū), च्छ (chchha) etc.

Thus, from the study of mss., a distinct variety of Nāgarī can be distinguished which is often, not exclusively met with in the Jain manuscripts. It differs from the classical Nāgarī mainly in the shape of chha, tha, da, jha and generally presents the forms older than those of Nāgarī.

Another characteristic of Jain-Nāgarī is evident

in its diversity of ligatures which are easily liable to be confused with ligatures of different value in Nāgarī.

It is also clear from what has been noted above that manuscripts represent the script in daily use and hence constantly changing, whereas the inscriptions use such forms only as have been handed down from the past.

Select List of Early Nāgarī Manuscripts:

1.* Rāmakrishṇachatuspadī : V.S. 1015 : No. 232 of 1902-1907, B.O.R.I.,Poona.

2. Mādhyandina Śatapatha Brāhmaṇa Aśvamedhakāṇḍa XIII: V.S. 1045: No. 1411, Royal Asiatic Society Bengal, Calcutta.

3. Nāmamālā : V.S. 1120 : Ms. with Babu Ramdas Sen, Bahrampur, No. 2511 in Notices of Skt. Mss., Govt. of Bengal, Vol. VII.

4. Viśeshāvaśyakabhāshyavyākhyāna : V.S. 1138 : Cat. of Mss. in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, No. 1106.

5.* Niśīthasūtrabhāshya : V.S. 1146 : No. 36 of 1880-81, B.O.R.I., Poona.

6. Niśīthasūtra (XIV - XX) viśeshachurṇi : V.S. 1146 : Ibid., No. 448.

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*Mss. folio of which has been studied in this work.

7. Niśīthachūrṇī : Colophon : V.S. 1157 : C.M.P.B., 203, 334.

8.* Sukhabodha (Uttaradhyayana Sūtravṛitti) : V.S. 1164: No. 4 of 1881-82, B.O.R.I., Poona.

9. Jīvasamāsaprakaraṇam : Colophon : V.S. 1164 : Peterson Mss. 1883, 64.

10. Āvaśyakasūtra : Colophon : V.S. 1166 : C.M.J.B., 24, 216.

11. Kharatara - Pattāvali : Colophon : V.S. 1171 : C.M.J.B., 17, 150.

12. Navatattvaprakaraṇa : End : V.S. 1174 : Peterson MSS., 1887, 283-4, Paper Ms. No. 24.

13. Dharmabindu by Haribhadrasūri with the commentary of Munichandrasūri : V.S. 1181 : Peterson, Third Report, App. I, No. 229.

14. Sagarachakravarticharitra : Colophon : V.S. 1191: C.M.P.B., 183, Paper Mss., No. 152.

15. Radmachariya : End : V.S. 1198 : C.M.J.B., 17, Palm Leaf MS. No. 152.

16. Pañchavastuka : End : V.S. (119) 9 : Kielhorn MSS., 1880-81, 25, Palm Leaf MS.

17. Navalingasūtram : V.S. 1203 : MS. with Dikmaṇḍālacharyya Mahārāja Bālachandra, Benaras, No. 153 in Notices of Skt. MSS., Govt. of Bengal, Vol. III (Series 2).

18. Kāvyaprakāśa: Colophon : V.S. 1215 : C.M.J.B., 18, Palm Leaf MS. No. 163.

19. Bṛihat Kalpasūtrachūrni : V.S. 1218 : Cat. of MSS. in B.O.R.I., Poona, Vol. XVII, pt. V, App. V, No. 580.

20. Kalpachūrni : End : V.S. 1218 : Kielhorn MSS., 1880-81, 10-11.

21. Tilayasundarīrayanachūḍāhata : Colophon : V.S. 1221 : Peterson MSS., 1887, 69.

22. Pṛithvīchandracharita : Colophon : V.S. 1224 : C.M.J.B., 17, Palm Leaf MS. No. 146.

23. Mahāpurshachariya : Colophon : V.S. 1227 : C.M.J.B., 39, Palm Leaf MS. No. 311.

24. Śāntināth Charita : End : V.S. 1227 : C.M.P.B., 224-227, No. 368.

25. Yogaśāstra and Vītāragastava : Colophon : V.S. 1228 : C.M.P.B., 105, No. 159 (2).

26. Nyāyabinduṭīkā : V.S. 1229 : No. 208 of 1899 - 1915, B.O.R.I., Poona.

27. Narapati - Jayacharyā : Colophon : V.S. 1232 : Bhanderkar MSS. 1882-83, 220.

28. Kalpasūtra : End : V.S. 1247 : Peterson MSS. 1887, 51.

29. Bhavabhāvanā with commentary by Hemchandra : V.S. 1249 : Peterson - Third Report, App. I, No. 309.

30. Yogaśāstra : End : V.S. 1251 : Peterson MSS. 1887, 74-77, No. 249.

31. Padmaprabhāchariṭra : End : V.S. 1254 : C.M.P.B., 210-214.

32. Shaḍaśītivṛitti : Colophon : V.S. 1258 : C.M.P.B., 43.

33. Yogaśāstrasya Vivaraṇa by Hemāchārya : V.S. 1260 : Numbered as 183 : Peterson; Third Report, App. I, No. 189.

34. Siddha - Jayantacharita : End : V.S. 1261 : Peterson MSS. 1887, 37-45, No. 220.

35. A collection of books in one Manuscript : V.S.1263:
    a) Kshetrasamāsa by chandrasūri, No. 198[1].
    b) Dūsamagaṁdiyāvagaraṇam, No. 198[2].
    c) Śobhanastuti by Śobhanāchārya, No. 198[3].
    d) Vivekamañjarī by Āsada, No. 198[4].
    e) Śrāvakavidhi, No. 198[5].
    f) Praśnottararatnamālikā by Vimala, No. 198[6].
    g) Dharmalakshaṇa, No. 198[7].
    h) Jineśvarastotram, No. 198[8].
    Numbered as 183, Peterson - Third Report, App. I, No. 198.

36. Pākashikasūtra vritti: V.S. 1275 : Catalogue of MSS in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, No. 1156.

37. Jinapujādyupadeśa : Colophon : V.S. 1280 : C.M.P.B., 288-90, No. 40.

38. A collection of books in one manuscript : V.S. 1284:
    a) Daśavaikālikasūtram, No. 226[1].

b) Pakshikasūtram, No. 226[2].

c) Ughaniryukti, No. 226[3].

Numbered as 183, Peterson - Third Report, App. I, No. 226.

39. Jinayajñakalpah Kalpadarpanākhyayā tīkayā Sametah : V.S. 1285 : No. 785 of 1895 - 1902, B.O.R.I., Poona.

40. Kathāratnakośa by Devabhadrasūri : V.S. 1285 : Numbered as 183, Peterson, Third Report, App. I, No. 288.

41. Sūtrapātha, Unādi & Lingānuśāsana by Vāmanāchārya : V.S. 1287 : Numbered as 183 : Peterson, Third Report, App. I, No. 266.

42. Com. on Dharmadāsagani's Upadeśa mālā : V.S. 1291 : Ibid. No. 320.

43.* Angavidyā : V.S. 1292 : Catalogue of Skt. & Prt. MSS in Bombay University Library, No. 2374.

44. Two books in one Manuscript :

a) Nandisūtram.

b) Nandyadhyayanatīkā by Malayagiri : V.S. 1292: Numbered as 183, Peterson, Third Report, App. I, Nos. 217, 218.

45. Jñatasūtrapramukhashadāngavritti by Abhayadevasūri: V.S. 1292 : Numbered as 183 : Peterson, Third Report, App. I, No. 300.

46. Hemavyākaraṇasūtrādi : V.S. 1293 : Numbered as 183; Peterson, Third Report, App. I, No. 267.

47. A commentary on the Āvaśyaka : V.S. 1294 : Ibid., No. 275.

48. Niśītha - Sūtra (XI-XX) viśeshachūrni : V.S. 1294: Catalogue of MSS in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, No. 447.

49. Yogaśāstra : V.S. 1294 : Numbered as 184, Peterson, Third Report, App. I, No. 186.

50. Shaḍvidhāvaśyakavivaraṇa : End : V.S. 1294 : C.M.P.B., 33, No. 37.

51. Upadeśakandalīvṛitti : Colophon : V.S. 1296 : Peterson MSS. 1892 - 1895, 41-50 : C.M.P.B., 329-333.

52. Saṅgrahapiṭika : Colophon : V.S. 1296 : C.M.J.B., 35, No. 282.

53. Yogaratnāvaliḥ Ṭikā : V.S. 1296, No. 141 of 1902-1907, B.O.R.I., Poona.

54. Uttarādhyayanasūtra with the commentary of Nemichandrasūri : V.S. 1296 : Numbered as 183, Peterson, Third Report, App. I, No. 250.

55. Āvaśyakaniryukti : V.S. 1296 : Numbered as 183, Peterson, Third Report, App. I, No. 202.

56. Deśīnāmamāla : Colophon : V.S. 1298 : C.M.P.B., 60, No. 84.

57. Com. on Bhagavatī-sūtra by Abhayadevasūri : V.S. 1298 : Numbered as 183, Peterson, Third Report, App. I, No. 319.

58. Samarāditya charitram by Haribhadrasūri : V.S. 1299 : Numbered as 183, Peterson, Third Report, App. I, No. 286.

59.* Piṇḍaviśuddhi : V.S. 1300 : No. 47 of 1880-81, B.O.R.I., Poona.

60. Anuyogasūtraṭīkā by Hemachandra : V.S. 1301 : Numbered 183, Peterson, Third Report, App. I, No.219.

61. Upāsakādivipākāntam Sūtrapañchakam with commentary : V.S. 1301 : Numbered as 183, Peterson, Third Report, App. I, No. 247.

62. Anuyogadvārasūtra : V.S. 1301 : Numbered as 183, Peterson, Third Report, App. I, No. 337.

63. Āchārāṅgasūtram : Colophon : V.S. 1303 : Peterson MSS. 1883, App. XL, No. 62.

64. Dhātuparāyan Vṛitti : Colophon : V.S. 1307, C.M.P.B., 162.

65. Jñātadharmakathā : V.S. 1307 : Peterson, Third Report, App. I, No. 235.

66. Commentary on Pakshikasūtra by Yaśodevasūri : V.S. 1309 : Numbered as 183, Peterson, Third Report, App. I, No. 283.

67. Commentary on the Vyavahārasūtra by Malayagiri : V.S. 1309 : Peterson, Third Report, App. I, No. 310.

68. Vyavahārasūtrasya Daśamoddeśaka : V.S. 1309 : Peterson, Third Report, App. I, No. 311.

69. Hitopadeśāmṛita : End : V.S. 1310 : C.M.J.B., 37, No. 301 (5).

70. Uttarādhyayanavṛitti : Colophon : V.S. 1310 : C.M.P.B., 218.

71. Jñānapañchamīkathā : Colophon : V.S. 1313 : C.M.P.B., 33, No. 40.

72. Daśavaikālika (Sūtra) ṭīkā by Tilakāchārya : V.S. 1314 : Numbered as 183, Peterson, Third Report, App. I, No. 222.

73. Kathāratnākara : Post Colophon : V.S. 1319 : C.M.P.B., 14, No. 15.

74. Vivekamañjarī by Āsaḍa with the commentary of Bīlachandra : V.S. 1322 : Numbered as 183, Peterson, Third Report, App. I, No. 260.

75. Daśavaikālikaṭīkā : Colophon : V.S. 1326 : C.M.P.B., 135, No. 204.

76. Uvāīsūtram : V.S. 1326 : Numbered as 183, Peterson, Third Report, App. I, No. 231.

77. Vāsupūjyacharitra : Colophon : V.S. 1327 : C.M.J.B., 24, No. 210.

78. Daśāśrutaskandhachūrṇi : V.S. 1328 : Numbered as 183, Peterson, Third Report, App. I, No. 290.

79.* Uttarādhyayansūtra : V.S. 1332 : No. 3 of 1880-81, B.O.R.I., Poona.

80. Oghaniryaktyavachūṛṇi : V.S. 1333 : Catalogue of MSS. in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, No. 1139.

81. Anuyogachūṛṇi by Jinadāsagaṇi : V.S. 1333 : Numbered as 183, Peterson, Third Report, App. I, No. 336.

82. Bṛihatkalpasūtra : V.S. 1334 : Catalogue of MSS in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, No. 569.

83. Bṛihatkalpasūtralaghubhāshya : V.S. 1334 : Catalogue of MSS. in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, No. 576.

84. Bṛihatkalpasūtralaghubhāshyachūrni : V.S. 1334 : Catalogue of MSS in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, No. 581.

85. Dvyāśraya : V.S. 1335 : C.M.P.B., 118, No. 286.

86. a) Kalpasūtra : Colophon : V.S. 1336 : C.M.P.B., 387, No. 64.

b) Kālakāchāryakathā : Colophon : V.S. 1336 : Ibid.

87. Abhidhānachintāmaṇināmamālāṭīkā : Colophon : V.S. 1337 : C.M.P.B., 74, No. iii.

88. Ādināthacharita : Colophon : V.S. 1339 : C.M.J.B., 42, No. 334.

89. Uttarādhyayanasūtra : V.S. 1340 : Catalogue of MSS in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, No. 646.

90. Sukhabodha (Uttarādhyayanasūtravṛitti) : V.S. 1342: Catalogue of MSS in B.O.R.I., Poona, Vol. XVII, Pt. V, App. I, No. 553.

91. Uttarādhyayana : Colophon : V.S. 1343 : Peterson MSS. 1892-95, 50; C.M.P.M., 327, No. 17.

92. Vyavahāra (I) bhashyaṭīkā : V.S. 1344 : Catalogue of MSS in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, No. 471.

93. Sthānāgaṅgaṭīkā : Colophon : V.S. 1346 : C.M.P.B., 201, No. 329.

94. Āchāraṅgasūtra : V.S. 1348; Achārāṅgasūtratīkā : V.S. 1348; Achārāṅgasūtraniryukti : V.S. 1348 : Catalogue of MSS. in B.O.R.I., Poona, Vol. XVII, Pt. V, App. V, Nos. 2, 12, 7 respectively.

95. Samavāyaṅgavṛitti : V.S. 1349 : Peterson, Third Report, App. I, No. 329.

96. Vṛihdāraṇyaka Bhāsnya : Śaka 1215 (V.S. 1351) : No. 2 in Notices of Skt. MSS Govt. of Bengal, Vol. I.

97.* Pratilekhaṇagāthā (Rituals) : V.S. 1355 : Accession No. 8484/10, Lalbhai Dalpatbhai Institute of Indology, Ahmedabad.

98. Abhidhānachintāmaṇi with com. by Hemchandra : V.S. 1386 : Peterson, Third Report, App. I, No.262.

99.* Rigveda (fragment) : V.S. 1418 : No. 6608, Royal Asiatic Society, Bengal, Calcutta.

CHAPTER 13

NANDĪNĀGARĪ

Nandīnāgarī is the name used for Nāgarī in the Deccan. It has been suggested that the name has been given to the script because of the famous city of the South where it was current.[1] Nandīnagara (modern Nander) is said to be the basis of this name.

Nandīnāgarī with its distinguished features appears extensively in the copper plates of the Vijayanagar kings. It was used in the Kanarese districts, for writing Sanskrit and is still in vogue for writing Sanskrit manuscripts. Majority of its letters resemble corresponding Nāgarī forms but some of them are archaic as compared to Nāgarī letters and some have different forms which are purely local.

A study of some Nandīnāgarī inscriptions alongwith their comparison with contemporary Nāgarī inscriptions follows:

A, Ā Out of the two forms of a (अ , अ) and ā (आ , आ) prevalent in the Nāgarī inscriptions, the latter is confined to Nandīnāgarī.

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1. cf. V.S. Agrawal, "The Devanāgarī Script", Indian System of Writing, p. 15.

I, U Initial i and u of Nandināgarī preserve older forms of the letters (ऽ , ऽ) as compared to the contemporary Nāgarī shapes. These can be seen in the Udayambakam grant of Krishnadeva Rāya[1(a)] and Kanuma grant of Sadāśiva Rāya.[1(b)]

Ri Ri in Nandīnāgarī is represented by the form of ru - ʃ - as in the Dandapalle plates of Vijaya Bhūpati.[2]

E, Ai E and ai preserve older form without the tail in Nandīnāgarī as exemplified in the Dandapalle[3] and Kanuma grants.[4]

O The form of o in Nandīnāgarī is not known from the inscriptions taken here.

Au Au does not occur.

Kha The loop of the right limb of kha still touches the top - ख - in Nandīnāgarī as in Dandapalle plates,[5] whereas it slips downwards in the middle of Nāgarī.

Gha In Nandīnāgarī, the older shape of gha having a notched part downwards - घ - prevails.

Cha, chha In Nandīnāgarī, the old shapes of cha and

1(a) E.I., XIV, pls. between pp. 172-73, l.45(i), l.87 (u).
1(b) Ibid., pls. between pp. 348-49, l.78 (i), l.174 (u).
2. Ibid., pls. between pp. 72-73, l.6.
3. Ibid., l.18.
4. E.I., XIV, pl. between pp. 348-49, l.237.
5. E.I., XIV, pls. between pp. 72-73, l.69.

chha are preserved. In contemporary Nāgarī inscriptions, a more advanced, modern-looking shape of chha - छ - has been developed. It can be seen in the Chitor inscription[1] of V.S. 1505.

Ja Ja has become peculiarly angular - ज - by suppressing the upper curve of the left limb (ज) as in the Conjeevaram plates of Krishnadeva Rāya.[2]

Da As in ja so also in da, the upper curve is suppressed resulting in an angular formation (ड) as in the Dandapalle plates.[3]

Na Na in Nandīnāgarī is distinguished from the Nāgarī one, by its straight left-stroke (ण) which can be seen in the Dandapalle plates.[4]

Tha Tha - ठ - of Nandīnāgarī as in the Kanuma grant[5] can be easily confused with the gha of Nāgarī.

Da The central bulge of da becomes narrow and angular and the lower angle with the tail rounded - ऽ - in Nandīnāgarī as in the Dandapalle plates.[6]

Dha In Nandīnāgarī, the upper curve of dha turns outwards - ध - as exemplified in the Kanuma grant.[7] In

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1. Cunningham, A.S.R., XXIII, pl. xx, l.3 (chhu).
2. E.I., XIII, pls. between pp. 126-27, l.14.
3. E.I., XIV, pls. between pp. 72-73, l.2.
4. Ibid., l.2.
5. Ibid., pls. between pp. 348-49, l.84.
6. Ibid., pls. between pp. 72-73, l.4.
7. Ibid., pls. between 348-49, l.1.

contemporary Nāgarī inscriptions modern-looking shape is evolved where the loop is reduced to a curved stroke drawn in continuation of the upper bar thus - ध - as in the Chittor inscription.[1]

Bha The old form of bha - ध - which can be seen in the Dandapalle plates[2] is used invariably in Nandināgarī. In Nāgarī inscriptions, an advanced form of bha - भौ (bhau)- as seen in the manuscript of the Rigveda dated V.S. 1418 occurs in the Delhi-Śivalik Pillar inscription[3] of V.S. 1581. A still more advanced and modern form is developed by the Introduction of a loop in the left limb - भ - as in the Dantewara inscription of V.S. 1760.[4]

Śa Śa - श - of Nandināgarī does not have a leftward turn at the top and just looks like the ra of Nāgarī. It can be seen in the Kudiyantandal grant of Vīra Nrisimha.[5]

In Nandināgarī, the medials e, ai, o, au are formed in the same way as in the modern Nāgarī with the difference that the upper strokes are smaller. It is worth notice that in Nandināgarī, forms consisting of side-strokes are not found, whereas these survive in the contemporary Nāgarī records.

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1. Cunningham, A.S.R., XXIII, pl. xx, l.7.
2. E.I., XIV, pls. between pp. 72-73, l.1.
3. Cunningham, A.S.R. V, pl. xli, H, l.2.
4. E.I., XII, pl. facing p. 246, l.2.
5. E.I., XIV, pls. between pp. 236-37, l.3.

Conjuncts: Nearly left half of ya when forming the second element of a conjunct is mutilated thus - स्य (sya) as in the Dandapalle grant.[1] Other conjuncts are formed in the same way as in Nāgarī.

1. E.I., XIV, pls. between pp. 72-73, l.3.

CHAPTER 14

MODERN NĀGARĪ

Impact of the Press and the Typewriter

The invention of the press and the typewriter has led to the arrest of change in script by keeping before our eyes constantly a standard form of letters. The writing has been undergoing change continuously from the day it was first evolved. But it would have changed beyond recognition in the last few centuries had it not been standardised by the press and the typewriter, as in the modern world writing is used more frequently than speech. Both these machines were invented in the west for the Roman alphabet. There was no difficulty in adopting Nāgarī for the press as the number of types was not limited there. But as regards typewriter, it seemed impossible to include all the Nāgarī symbols in ninety-two keys, provided by a standard Roman typewriter. So our government appointed some committees and also invited suggestions from private organisations and individuals for the reform of Nāgarī, in order to make it suitable for the typewriter.

- Reform of Nāgarī

Some of the proposed reforms as those put forward

by P.B. Kale[1] and Shrivastava[2] depart much from the traditional usage. Such reforms cannot be accepted for in that case, the vast literature recorded in Nāgarī in India and abroad shall become obscure and only readable by Palaeographists.

The reforms suggested for Nāgarī concern initial vowels, medials, consonants and ligatures. The motives governing these reforms are:-

1. reducing the number of letters,

2. suggesting suitable letters for the typewriter and composing machines,

3. coining new symbols for the sounds of other modern Indian languages, and

4. avoiding confusion.

For reducing the vast number of vowel symbols in Nāgarī, it is suggested that all the initial vowels should be formed by adding their medial signs to the initial a. The forms of o and au in Nāgarī and those of e, ai, o, au in Gujarati are quoted in support.[3] In fact these forms are current in Maharashtra and are being used in several newspapers of Maharashtra. Moreover, the basic

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1. From the copy of the chart of Mechanised Nāgarī presented by P.B. Kale on 15.8.1965. I obtained the copy from him.

2. "Pratisaṁskrita Devanāgarī - Lipi", Nāgarī Prachārinī Patrikā; Vol. 53, Saṁ, 2005, p. 50 ff.

3. Pt. Keshavaram K. Shastri - "Lipi Sudhāra", Devanāgarī Lipi : Svarūpa, Vikāsa Aur Samasyāyen, ed. by N.C. Joglekar & Bhagwan Dass Tiwari, p.313.

rule of Nāgarī barring successive use of two vowels in a word is violated and the rules of svarasandhi where two close vowels result into some other vowel or semi-vowel stand nowhere.

As far as forms of o and au are concerned, they are also unscientific. It is better to have independent shapes for them. But since they have been accepted as such for centuries, they shouldnot be changed now to add two more symbols to Nāgarī alphabet.

To make Nāgarī more easily adoptable to typewriter and teleprinter, some reforms in the medials are put forward. Baburau Vishnu Paradkar,[1] Keshava Ram K. Shastri,[2] Kaka Samiti[3] and P.B. Kale[4] suggest that three stories in Nāgarī should be avoided. All the medials should be formed like the mātrā of ā to the right of the consonant. It may be useful for mechanical purposes but it will spoil the beauty and also ease in writing.

The sign of short medial i which preceeds the consonant is proposed to succeed it, to put it at a place where it is pronounced and also to make it fit for

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1. "Nāgarī Lipi Kī Upayogitā", ibid., pp. 57-58.
2. "Lipi-Sudhāra", ibid.,pp. 313-14.
3. "Bombay Sarakārakī Lipi-Sudhāra Samiti Dwārā Marāṭhī Va Gujarātī Lipiyon kā Sudhārasambandhī Abhimata", ibid., p. 388.
4. From the copy of corrected and modified version of the chart of Mechanised Devanāgarī presented by P.B. Kale on 15.8.1965.

the typewriter. The signs suggested for it are - ९ , ९ and ९ respectively by the Lucknow Conference,[1] P.B. Kale[2] and typewriter Committee of Government of India.[3] By the introduction of half-movement keys, short medial i is no more a problem for the typewriter. However, if its sign succeeds the consonant, the objection of its being unscientific can be removed and the sign suggested by the Hindi Typewriter and Teleprinter Committee of Government of India, 1958 seems to be the most appropriate.

Reduction in the symbols of consonants is proposed by replacing the Mahāprāṇas by the respective alpaprāṇa plus - ह् -[4] as it is represented in English. Though the sounds of Mahāprāṇas include ह् sound but they are independent sounds and independently denoted in our alphabet.

Kaka Kalelkar Samiti pointed out the stroke in ख and ठ which makes Mahāprāṇa from ख and ट and suggested its use in the formation of all the Mahāprāṇas from the

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1. Charts showing changes in Devanāgarī script adopted by Devanāgarī Script Reform Conference held at Lucknow on November 28 and 29, 1953, p. 1, pt. B.
2. From the copy of corrected and modified version of the chart of Mechanised Devanāgarī presented by P.B. Kale on 15.8.1965.
3. Report of the Hindi Typewriter & Teleprinter Committee, 1958, p.7.
4. cf. R.J. Phadake, 'Nayī Hindi Tanka Lipi": Devanāgarī Lipi : Svarūpa, Vikāsa Aur Samasyayen, ed. by N.C. Joglekar & Bhagwan Das Tiwari, p. 307.

respective Alpaprāṇas.[1] This suggestion cannot be accepted as it would totally change the shape of so many letters.

R.J. Phadake points out ṉa and ña as unnecessary and says that out of śa and sha one can do.[2] But it is asserted that each one of them stands for a distinct sound and so they cannot be left out.

In printing, two forms of a (अ ,ञ्र), ā (आ ,ञ्रा), o (ओ ,ञ्रो), au (औ ,ञ्रौ), aṁ (अं ,ञ्रं), aḥ (अः, ञ्रः), ṛi (ऋ , ॠ), chha (छ , ध्य), jha (झ , झ), ṇa (ण , ण), la (ल , ल), śa (श , श), śva (श्व , श्व), ksha (क्ष , क्ष), jña (ज्ञ , ज्ञ) are prevalent. In Bombay, the former form of each letter taken from the Bālabodha alphabet is used and in Calcutta printing, the latter shapes belonging to classical Nāgarī prevail. To reduce this unnecessary number, Lucknow Samiti has standardised these shapes अ , ॠ , छ , झ , ण , ल , श , ज्ञ , क्ष choosing ṇa, jha and la because of their vertical part on the right.[3]

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1. "Bombay Sarkāra kī Lipi - Sudhāra - Samiti dwārā Marāṭhī va Gujarāti Lipiyon kā Sudhāra Sambandhī abhimata", ibid., p. 389.

2. "Nayī Hindi Ṭaṅka Lipi", Ibid., p. 308.

3. Uttara Pradeśīya Devanāgarī Lipi Sudhāra Sammelan, Kāryavāhī tathā Niścaya, 19-20 October, 1957, p. 27.

The new forms of kha (ख), dha (ध) and bha (भ) suggested by Lucknow Committee[1] to avoid confusion from rava (ख), gha (घ) and ma (म) have been welcomed since they do not affect the shape of the letters much. Some of the presses have even started printing them and it is learnt by experience that these forms are not even noticeable to a common eye.

The conjunct-system in Nāgarī multiplies the number of types beyond limit. One way of reducing their number is to increase the use of minus-vowel sign i.e., hal. Secondly, the ligatures should be formed horizontally as क्व (kva), क्क (kka) not vertically क्व , क्क , thus saving independent types needed for the latter.

The half forms of the letters with the vertical on the right are easily obtained by leaving the vertical and those of ka and pha by omitting hanging part of the right hook. For the letters like ञ (ña), ट (ṭa), ठ (ṭha), ड (ḍa), ढ (ḍha), द (da), ह (ha), it has been suggested by S.R. Date that they should be renovated to have vertical on the right.[2] But this is again violating the basic principle. Regarding da (द) and ha (ह)

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1. Uttara Pradeśīya Devanāgārī Lipi Sudhāra Sammelan Kāryavāhī tathā Niśchaya, 19-20 October, 1957, p. 27.
2. "Lipi Saṁśodhana aur Mudraṇa Paddhati", Devanāgarī Lipi: Svarūpa, Vikāsa aur Samasyāyen, ed. by N.C. Joglekar & Bhagwan Dass Tiwari, p. 296.

practical half forms ह्‌ , ह्‍ have been proposed by him, out of which latter has been adopted by such magazines as Saritā. As far as half forms of ṭa, ṭha, ḍa, ḍha are concerned, use of hal would not make much difference, their frequency of occurrance being so small.

Ra presents as many as four forms - full form र , superscript र्‌ , subscript ऱ and ऽ . Out of these, only full form should be retained proposes Dr. Bhola Nath Tiwari.[2] But then the words like प्रेरणा (preraṇā), खुर्रम (Khurramd), महाराष्ट्रीय (Mahārāshṭrīya) shall become प्‍रेरणा , खुऱ्रम , महाराष्ट्रीय , totally devoid of the beauty, flow and ease which Nāgarī displays. One will have to think before one reads or writes such expressions. So it seems proper to preserve all the forms of ra. The independent type for tra - त्र has been avoided by standardising the conjunct as त्र .

As a national script of India, Nāgarī needs some more symbols for the sounds prevalent in other Indian languages. But the already vast number of Nāgarī alphabet should not be enlarged. Those sounds can be shown by diacritical marks as has already been done in case of Arabian-Persian words used in Hindi. The ज़ (zoya), غ (gain), ف (phe), ق (koph) are shown by placing a dot below ज़ , ग़ , फ़ , क़ respectively.

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1. "Rāshṭralipi ke rūpa men Devanāgarī", ibid., p. 251.

Dr. Bholanath Tiwari proposes five symbols which cover the extra sounds in Malayalam, Tamil, Marathi and Telugu.[1] The short sounds of ai, au can be denoted by putting a ardhachandra over e, and o, thus ऍ , ऑ , Prativeshthita murdhanya ṛa and dantamūlīya ṭa of Malayalam can be represented by placing a circle below ऋ and ॠ . The fifth symbol is -ळ - which has already been included in the alphabet. He opines that the peculiar sounds gha, jha, ḍha, ḍha, bha of Panjabi can be expressed by gha, jha, dha, dha, bha of Nāgarī,[2] but it is better to have distinctive signs to differentiate between Hindi and Panjabi pronunciations. It may be a dash (bar) below the letter. Similarly, for the sounds in the foreign languages such arbitrary symbols can be created.

It is an irony of fate that the press and the typewriter which created need of reform in Nāgarī have themselves become a hinderance, since the vast literature recorded by them and the old types prepared for them shall go waste and consequently shall cost much if the changes depart much from the traditional usage. Now, the only way left is to mould these machines for the advantage of Nāgarī.

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1. "Rāshṭralipi ke rūpa men Devanāgarī", Devanāgarī Lipi: Svarūpa, Vikāsa aur Samasyāyen, ed. by N.C. Joglekar & Bhagwan Dass Tiwari, pp. 241-50.
2. Ibid., p. 247.

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